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ORIGINAL ARTICLES.

THE TEACHINGS OF FAILURES.*

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We will all agree with Dr. M. H. Richardson, of Boston, when he says: "Of all postoperative disasters, the most distressing and deplorable is hemorrhage." Whether death has occurred as a result of avoidable or unavoidable bleeding, the very fact that the patient has died as a result of surgical intervention, and not, as sometimes occurs, as a sequel to some medical malady, exhausting febrile state, or an asphyxiating pneumonia, diseases that number their victims by the thousands, is a painful one. Under medical circumstances, however devastatingly cruel the issue, it must be accepted without a murmur by those who watch.

In death from hemorrhage, whether a post-operative capillary oozing or due to the slipping of a badly applied ligature, or to the detachment of one of Nature's thrombotic plugs, it matters little; the patient dies and the responsibility belongs to the man behind the knife.

*Case I.*¹—Mrs. S. E., aged thirty-eight years, married. Four years ago she had a well-defined attack of biliary colic. The pain continued unremittingly and was of sufficient severity to demand the daily use of morphine. The hepatic colic working in its sequelæ upon a constitution already infirm and impoverished, left behind a nervous adynamia, and it was for the relief of this condition, and the soreness over the bile passages, that the opiate was unfortunately continued. Her paroxysms of pain became more and more frequent, and her icterus deepened to a bronze. In this condition the patient was admitted to the City Hospital.

Without any preliminary treatment, under ether narcosis the gall-bladder was exposed with some difficulty, as many vascular adhesions were in evidence. The thin-walled gall-bladder was incised and found to contain an acholic viscid fluid; further separation of very old adhesions exposed the region of the common duct, and with the exploring finger one could feel the offending stone. Choledochotomy was done, and a large impacted calculus removed. The opening in the common duct was closed, and drainage established.

During the first twenty-four hours, there was a copious flow of bile from the tube, and a very little exudate of blood, the vital signs being all that could be desired. During the two weeks preceding the operation, she had suffered with

two attacks of fainting while in bed. One of these attacks followed the exhibition of some gold preparation, which had been given under the direction of another physician, for the relief of her morphine habit, and whether the syncopal attacks were a result of the gold injections or not, I am not prepared to say. At any rate, three days after the operation, following an uncomfortable night, she was seized with an attack, characterized by a small rapid pulse, marked restlessness, moist, cold skin, and other well-defined indications of shock, all regarded as symptoms of dire significance. In dressing the wound the bile-stained strips of gauze showed no evidence of internal bleeding. The use of anti-shock measures established a more hopeful condition of affairs, but the improvement was only temporary. At nine o'clock, on the evening of the sixth day, after a battle against great odds, the patient died.

The autopsy revealed an extensive extravasation of blood; there was no more blood about the field of the operation than in other directions. The space between the diaphragm and the liver was filled with clotted blood; there had been an intraperitoneal capillary oozing even as remote from the gall-bladder as the splenic region.

The lesson of this failure seems obvious. Courvoisier warns us to search the history of the patient, and to make a careful examination all over the body, in order to ascertain whether or not a predisposition to hemorrhage exists, either from the mucous membrane or the submucous tissues; and in case the patient presents any symptoms, to abstain from operation. It seems almost as if the operation brings into active existence a latent hemorrhagic condition. Merman reports that Czerny lost seven patients out of forty-three, upon whom he had operated for diseases of the biliary tracts; three of the seven deaths were caused by cholemic secondary hemorrhage, which in one case occurred from the intestines, entirely independent of the operation wound.

This tendency is decidedly more frequently present when the jaundice is dependent upon pancreatic disease. The most insignificant traumatism in these jaundiced patients, may give rise to the most alarming and oftentimes fatal hemorrhage.

Although this disaster has come to every man who has done any considerable amount of gall-bladder surgery, there are certain preventive measures, which, if observed, will certainly lessen its frequency. Mayo Robson² found that the administration of 30-grain doses of chloride of calcium every four hours for a few days before operation made the blood more plastic and less-

* Read before the West Virginia State Medical Association, at Wheeling, May 24, 1905.

ened the tendency to bleeding, both at the time of operation and subsequently. The profession is indebted to Dr. A. E. Wright for this valuable discovery. His researches on the coagulability of the blood were published in the *British Medical Journal*, in December, 1891. Robson observes that the calcium may be continued, either by mouth or by nutritive enema, for some time with advantage. It is needless to add that every bleeding point should be securely tied, rather than to trust to forcipressure for hemastasis.

Dr. Charles B. Nancrede, of Ann Arbor, Mich., in the discussion of Dr. Richardson's paper on "Certain Unavoidable Calamities following Surgical Operation," read before the American Surgical Association in June, 1904, writes of two cases which terminated favorably. In one case the patient was a badly jaundiced man, upon whom he had recently operated. Following the operation he bled for eighteen days, and a fatal termination seemed most probable. But after the exhibition of large doses of calcium chloride, which had also been used some time previous to the operation, and along with it gelatin injections, the man made a good recovery.

The other patient was a woman whom he had treated in the same way. She bled to an alarming extent for a number of days after the operation; but the hemorrhage gradually ceased and she recovered so far as it was concerned.

Dr. Nancrede did not know whether the injection of a sterilized solution of gelatin in normal salt solution into the wound had any effect in saving the lives of these patients; but certainly after the injection in both cases the bleeding began to stop.

Case II.—D. J., aged thirty-eight years. Patient had suffered for several years with symptoms of stone in the kidney. Incision had twice been made by other operators, with the expectation of finding the cause of the distressing pain. He was admitted to the City Hospital, and after the usual preparation, the offending organ was located, with much difficulty, owing to its faulty position high up in the splenic region. Nephrotomy was done, and a large stone was removed from the renal pelvis. The bleeding was unnaturally profuse, and required a tamponade of gauze carried well down through the cortex into the pelvis before it was arrested. The case progressed favorably until the fifth day, at which time, because of a slight elevation of temperature and some indications of suppuration about the gauze, the writer was led to trust the impression created in similar cases and removed the plug. As will be shown, this was a fatal error. The first part of the tampon was withdrawn with very little resistance, adhesions rather firm in character seemed to engage the meshes of the last bit of gauze, and immediately with its removal, there was a deluge of blood. A large strip of styptic gauze was quickly reinserted, and firm pressure made over the wound. The hemorrhage seemed to be for the time being under con-

trol; but the gradually quickening pulse, the restlessness, air hunger and sighing respirations foreshadowed the unwelcome truth of a fatal internal bleeding. The patient was removed to the operating room, the wound reopened under ether and a ligature quickly applied to the pedicle of the kidney. The extravasation of blood had been enormous. Despite the fact that every effort was made to combat the shock, the exsanguinated patient died four hours after the tampon was removed.

There may be a profound satisfaction and a pleasure in the consciousness of having done what one believes to have been right, in this or in any case; but the blunder here committed was, the refusal of the writer to have profited or to have been profoundly impressed by a similar fatal accident, which occurred in the practice of one of the attending surgeons to the Presbyterian Hospital, New York, some ten years before, while an interne in that institution. If there is any little defense of our position, one might say that the integrity of the renal blood vessels may have been in as much jeopardy at the expiration of ten days as they were on the fifth day, or at the time the gauze was removed. This point the writer trusts will be brought out in the discussion.

Case III.—Another fatal result, which was contributed to by an alarming hemorrhage, occurred in the writer's service as House Surgeon to the Presbyterian Hospital, New York City, in 1891, after the removal of a large suppurative mass, in a case of double inguinal adenitis. When about ready to apply the bandage an apparently insignificant piece of tissue was raised with the anatomical forceps, and cut away. In so doing the wall of the femoral vein was opened, and the result, almost appalling, need hardly be described. There were absolutely no anatomical landmarks, as the entire environment had taken part in inflammatory condition.

While digital compression was made, in the face of many difficulties, the vein was tied above and below. When this was accomplished and the compression removed, the bleeding seemed as profuse as before the ligatures had been applied. This was because the traumatism had been inflicted at a point opposite the entrance of the profunda femoris and deep external pudic veins. After a tedious dissection, ligatures were applied to these muscular tributaries and the exhausted patient removed to his bed. Artificial heat was applied to the limb which had been deprived of its circulation, and the subsequent progress of the case seemed to be satisfactory enough for one week, at which time he died suddenly from epidemic pneumonia, which prevailed in the Presbyterian Hospital at that time.

The whimsical Burton, in his "Anatomy of Melancholy," is said to have written: "Every man should know his own but not others' defects and miseries; it should be the nature of all men to reflect upon themselves, and their own

misfortunes; to recount their own miseries, and not their good gifts, fortunes and benefits; to ruminate on their adversity, but not once to think on their prosperity; not what they have, but what they want." Skerritt puts it this way: "If failure opens our eyes to our deficiencies, if it makes us more critical, more careful to avoid unscientific methods of observation and research, if it leads us to greater diligence, thoroughness and honesty in our work, then, it will not have come to us in vain."

Case IV.—The following case illustrates the errors in diagnosis one may fall into by accepting the word of a patient or his friends and omitting to take a careful history or enter into a painstaking examination for himself. Several years ago the writer was asked to visit a patient in a neighboring town, who was said to be suffering with cancer of the uterus. The patient had given a history of having suffered much pelvic pain, had lost flesh, and had an offensive leucorrhea, with occasional hemorrhages. As the room was entered one was struck by the strong, sickening odor of decomposed organic matter. A hurried examination was made and a sloughing mass was encountered very much resembling the condition one might find in an advanced carcinomatous necrosis of the cervix, with extensive filtration of the vaginal environment; even to the touch of the finger the tissue seemed to break down.

At any rate, the writer accepted the proffered diagnosis as the cause of the woman's suffering; consigned her to that hopeless doom, with its crushing mental anguish and to morphine with its fathomless Inferno. A kind Providence directed this sufferer into more exacting hands and the correct diagnosis was made of a large sloughing submucous cervical myoma. The tumor was removed in due time, and to-day the woman is enjoying good health.

The error here came as a result of a hurried examination. Had curettings been obtained, the submucous myoma here present would have shown perhaps a slight atrophy, and probably some small-celled infiltration of the cervical mucosa; whereas had an adenocarcinoma existed, the characteristic epithelial proliferation would have been demonstrated (Cullen).

Since writing the above there has come to the writer's attention the report of a series of several hundred cases of pancreatitis with fat necrosis, analyzed by Preble, of New York, illustrating how errors in diagnosis may be made in this department of our art. In only 10 per cent. of the cases in question was a lesion of the pancreas even suspected. The diagnoses of peritonitis, intestinal obstruction, perforation, were made and were right as far as they went. Then, still, in another direction, there are operations made on false findings of cuttings and scrapings, when opinions based upon these diagnoses may lead to surgical intervention either too radical or not radical enough. There is clearly a lesson here

for the surgeon and physician which has an immediate practical bearing.

Case V.—Foudroyant and fatal sepsis following on the fifth day after supravaginal hysterectomy. Tuholské² points out that there may be possibly something in these fatal cases we cannot gauge. Not all patients behave alike under the knife. Some of them will die, and we cannot measure up the cause. We know there is a peculiar nerve element in some of them, which is not present in others. Some patients stand an anesthetic poorly. If the individual idiosyncrasies are studied with greater care, if the little peculiarities are watched more closely, there would be fewer calamities. In the writer's case, every attention was paid to the details of asepticism. But, as Dr. Richardson enjoins: "Perfection of asepsis is of little moment if the patient dies."

On the evening of the fourth day, the patient seemed to be overwhelmed; the symptoms were not unlike those of shock, excepting that there was an elevation of the temperature. Death occurred on the evening of the fifth day, of what seemed to be profound sepsis, almost before the challenge could be taken up by the phagocytic sentinels of the peritoneum. An autopsy demonstrated a beginning fibrino-purulent deposit covering the sutured margin of the broad ligament with its point of maximum intensity opposite the entrance of the cervical canal. The general cavity of the peritoneum did not seem to be seriously invaded.

*Case VI.*³—While touching upon these so-called unavoidable calamities in surgical work the following interesting case, presenting a unique feature in the mortality factors of appendicitis, may be entered here to demonstrate the ease with which one may go astray on the question of prognosis: A boy of fourteen years of age was admitted to the writer's service in the City Hospital who had been treated by his family physician for typhoid fever for a period of eleven days prior to admission. His symptoms seemed to have been typical until the tenth day, when there was discovered an induration and localized tenderness in the right iliac region. On the day of admission, May 6, under chloroform narcosis, the usual incision was made, and about an ounce of very offensive pus was removed from the retrocecal region. In the washing there escaped a tubular segment of the appendix vermiformis, much resembling a macerated piece of macaroni. A suspiciously dark area was detected over the cecum, but because of the profoundly collapsed condition of the patient no further interference was deemed advisable. Well-directed drainage was established and the patient removed from the table. Forty-eight hours after the operation the dressing was repeatedly saturated with a dark, offensive, coffee-ground fluid, and at times there seemed to be some fresh-looking blood with the exudate. The drainage strips were removed, and there welled from the wound a quan-

tity of decomposed dark blood clot. Collapse and death followed three days after the operation.

The real interest in this case centers in the autopsy. The cecum, buried in a mass of rather firm adhesions, was the seat of a gangrenous perforation sufficiently large to admit two fingers. No remnant of the appendix was discernible. A very extensive extravasation of old decomposed blood was found distending the cecum, ascending colon and part of the ileum. Peyer's patches exhibited the typical typhoid lesion, and an eroded vessel, in the base of one of these ulcers, demonstrated the seat of the hemorrhage and the cause of death.

Case VII.—Certainly that English physician was not remote from the truth when he said that "Growing experience tends to undermine the simple faith with which the young practitioner emerges from his student days"; and as Shradly wisely reflects, "Unfortunately for the mental peace, the wider the experience becomes, the more do certainties give place to probabilities. In forming an opinion it is always wise to give due weight to possibilities, as well as to probabilities, and to make full allowance and preparation for the unexpected." Especially is this true in surgical affairs.

The case in question had all of the well-defined indications of a tuberculous arthritis of the knee. Exploratory arthrotomy was proposed, with the distinct understanding that no more serious operation would be attempted. After the articular surfaces had been sawn through it was demonstrated that the disintegrated and pultaceous relic of a once useful hinge could in nowise be saved; that excision was entirely out of the question; and to even a casual observer it was evident that amputation offered the only salvation for the woman's life and health. A hurried conference was held with the husband and the attending physician, and, armed with the supporting opinion of several of my colleagues on the hospital staff, amputation was performed at the middle third of the thigh. In the following five weeks of treatment the patient refused to speak to the man who had promised to save her leg. That serious medicolegal proceedings were averted was due to good luck rather than to any great amount of diplomacy on the part of the operator.

Moral: Be slow and cautious in making promises, then it will be no difficult thing faithfully to keep them.

Concerning the legal points involved and touching upon this important subject, a recent lay journal⁸ tells us that where the patient is a child the consent for operation which the law requires must be obtained from the parents, or from some person standing in the relation of parent or guardian to the patient. When the patient is a married woman it has been held in some cases that the consent of the husband is necessary; but this proposition has been denied

by the Supreme Court of Maryland in a leading case on the subject.

"In this case," writes the editor of the *MEDICAL NEWS*,⁹ "the surgeon operated for a tumor of the breast which was supposed to be benign, but which proved to be malignant; upon the discovery of the true nature of the growth, amputation of the breast was performed."

The husband testified that he supposed the operation was for the purpose of removing an innocent tumor, and that he never would have consented to the removal of the entire breast. The Court said that the consent of the wife and not that of the husband was necessary. The professional men whom she had called in were the proper persons to determine what had to be done.

They could not, of course, compel her to submit to an operation, but if she voluntarily submitted to its performance her consent would be presumed.

A simple and practical method, avoiding all questions in cases of the character we have discussed, is suggested by Dr. Foster, in a communication to the *New York Medical Journal*, in which he says that it would probably be wise for the surgeon to provide himself with a blank form, which, when properly filled out, signed by the patient and properly witnessed, would give him authority to do whatever he believed it necessary and proper to do in each individual case.

You have heard how one can easily be led astray in the direction of a faulty prognosis, and that, too, over a part of the anatomy so easily seen and felt as the knee-joint. Let us turn our attention now for a few moments to the subject of diagnosis of abdominal tumors. Richard Bright,⁷ that matchless English writer and investigator, as far back as 1827 had this to say: "The sources to which we turn for evidence respecting the existence and nature of abdominal tumors are: The form and appearance presented to the eye; the form still further discovered by the touch; the resistance ascertained by pressure; the sounds elicited by percussion; and, in a few instances, the sound perceptible to the ear, either alone or by the aid of the stethoscope; and, besides these local and physical signs, we look to the general condition of the system, and the various excretions, as rendering us most important assistance, and being frequently indispensable toward the formation of a tolerably correct diagnosis."

How frequently the accuracy of these statements, written three-quarters of a century ago, has been tested, every one of you know. Frantz Howitz,⁸ of Copenhagen, in a recent paper entitled, "Fragments of My Surgical Mistakes," takes his reader back to 1884, when he reports the confusion arising between anomalous forms of the pregnant uterus, and ovarian cysts (before the International Congress at Copenhagen). He states that a pregnant uterus with an elongated cervix has caused him to make false diag-

noses of ovarian tumor or uterine fibroma. These three conditions—pregnant uterus with some anomalous forms, ovarian tumors and cysts, and uterine myoma—have evidently been the source of much confusion to him during his career as a surgeon, and he cites a number of interesting illustrations. Whereas he has operated on 500 myomatous uteri, he declares that, as a general rule, pregnancy cannot be diagnosed in such uteri. Tubal pregnancy he has more than once confounded with ovarian cyst.

The author seems fond of saying: "Only a year ago," he made this or that mistake; as if to imply that experience does not make one immune. On several occasions he has confounded renal and ovarian tumors. In this connection he adduces the fact that when Spencer Wells performed his first laparotomy for supposed ovarian cyst, the condition actually present was hydronephrosis. This same author had a case in which he mistook hydronephrosis for a floating kidney for an ovarian tumor with a long pedicle. About a year ago Howitz opened the abdomen after a diagnosis of unilocular ovarian cyst, and found only ascites. Several times when he had diagnosed ovarian tumor, operation had revealed tuberculous peritonitis, and once a large mesenteric tumor. On one occasion he mistook a distended bladder for a collection of abdominal fluid. He tapped once or twice before finding his error. "Here," he writes, "we have only a comedy; but it might easily have turned out a tragedy."

Case VIII.—In May, 1902, Mrs. T. E. came under the observation of the writer, with the following history: She had not menstruated for ten months. For the past four months she had suffered much with abdominal pain, and had had attacks of nausea and vomiting. There has been an irregular enlargement of the abdomen, and there were felt occasional slight fluttering movements. The chief symptoms, however, and those for which she came for treatment, were the sharp attacks of abdominal cramps, the nausea, vomiting and epigastric pain and other symptoms, which had incapacitated the patient and rendered her life miserable.

An examination revealed a patulous os; and, what seemed a most extraordinary state of affairs; in the cul-de-sac the foot of a child could be unmistakably felt through the thin vaginal wall. Bimanual examination demonstrated the presence of a large mass in the left side, freely movable within the abdominal cavity and very much resembling a four months' abdominal gestation. A soft blowing sound could be heard synchronously with the maternal pulse, but no fetal heart was discernible. That the woman was pregnant there did not seem to be the shadow of a doubt; but whether the child was within the uterus, or floating within the abdominal cavity, was not so easily decided. It might be noted here that suppression of menstruation is not associated so regularly with abdominal as with normal pregnancy, having been noted in

only 43 per cent. of the cases observed by Martin, Orth and others; and this observation contributed to the doubt that already existed.

One of my colleagues on the hospital staff made a most painstaking examination and concurred in the opinion held by the writer, that the case was one of abdominal pregnancy. We had seen such a case delivered at term by laparotomy, at the City Hospital, in the services of Dr. E. C. Myers, and the writer chanced to be familiar with the exceptional case reported by Both, in which a fully developed fetus lay perfectly free in the abdominal cavity after removal, all that was left of its membranes being found in the tubal sac. Osler once said that "desperate cases require desperate remedies," and in no single instance in the series of abdominal cases reported by him were the chances of the patient damaged: by an exploratory incision; remembering this, and influenced by the earnest petition of the patient, abdominal section was performed.

There was found a four months' pregnant uterus, normal in every particular; the mistake acknowledged, and the abdomen closed. The patient, fortunately, made an uneventful recovery, and was delivered of a healthy child five months later.

Case IX.—One of the most depressing calamities that may come to the surgeon in the course of his work, certainly one of the most mournful in its after-effect, and receiving, even though not always meriting the most hostile criticism, is his failure to remove a sponge from the abdomen following a laparotomy. This unpardonable blunder was committed by the writer following an abdominal section, for double pyosalpinx, about ten years ago. Aside from a slight rise of temperature and some pelvic pain which was thought to have been due to a reaccumulation of pus in the cul-de-sac, no serious consequences arose. Under local anesthesia the posterior pouch of Douglas was incised over a fluctuant point, on the fifteenth day following the operation, and a small gauze sponge, which had been used on a stick, was removed, and with it a small quantity of pus evacuated. The patient, fortunately, made an otherwise uneventful recovery.

Riese,* of Berlin, in writing of the fate of the compress left within the abdominal cavity, speaks of Neugebauer, who found that this accident had occurred ten times in one thousand laparotomies done in Warsaw—one in every hundred. Riese has seen it occur but twice in nine hundred, or one in four hundred and fifty. Mikulicz in nine hundred personal laparotomies never experienced this accident. A research into the literature made by the Berlin surgeon resulted in finding forty-one cases.

Despite all care on the surgeon's part, Riese contends that this accident must be constantly expected by operators doing abdominal work. This fact should certainly lead to a revision of the statutes as to penalties for unavoidable accidents. The surgeon cannot be expected to act

with the precision of a machine. The author of the paper in question implies that to make a surgeon liable for this and similar accidents is to put a premium on mere good luck at the expense of skill and experience.

While the manner of avoiding certain of the distressing calamities which have been spoken of may be apparent, there is one thought which should be presented, although it may seem commonplace and perhaps not germane to our subject. Since sudden and unforeseen death in people not known to be ill, and those who are attending to their daily labors is common enough, it would appear that the surgeon should be familiar with the way in which such death occurs, inasmuch as it would be almost certain to occur in the same manner after operative work. By paying rigid attention to the personal history of the patient and to all the resources of diagnosis, by the recognition of conditions which may predispose to, the symptoms which may portend, the means which may prevent, and the course which may retrieve disaster (Richardson), he should be able to exclude some of these cases as inoperable.

Lochte¹⁰ has recently written on this subject, and his paper is based on autopsies of one hundred and one cases of sudden death. It is not fair, he states, to claim, as is popularly done, that such cases are stricken down in the bloom of health. In a majority it would have been possible for an examination to have determined that something was wrong. He seems to indicate that some of the patients knew that their physical condition was not up to par, but made light of it. Still they were evidently in apparently good condition.

The first cause, in frequency, of such death is disease of the heart, really of the coronaries, with thirty-one victims. Of great importance is the fact that these people were young, only one over fifty years of age; not one had reached the fatal age of fifty-five, pointed out by Dr. J. L. Dickey, in his interesting paper on angina pectoris, a few years ago.

The second cause in frequency is alcoholism, with twenty-five cases, the great majority being chronic.

The third class the author styles "walking cases" of acute infectious diseases, with twelve victims—six pneumonia, two typhoid, one meningitis, one ulcerative endocarditis, one erysipelas, etc.

The rest of the material included seven cerebral apoplexies, seven cases of aneurism and other diseases of the vessels, eight cases of pulmonary conditions, and the rest unclassified. In this series the males greatly outnumbered the females.

"So long as we are human, we must expect occasionally to meet with failure and disaster in the practice of surgery, and that in spite of every precaution. In the great majority of cases failures and disasters may be traced to some error

of observation, of judgment, or of technic. In many instances, however, the most rigid reviews of the case will fail to show the error by avoiding which a similar disaster may be prevented. Disasters occurring as the result of causes which cannot be detected may be classed as unavoidable, and yet in a strict sense they properly are avoidable. Indeed, it would be difficult to imagine a combination of circumstances, however disastrous, which by an accurate foreknowledge could not be successfully provided against."¹¹

If a review of such bedside reports as these, dolefully revealing, as they do, errors of judgment or faults of omission and commission, lead to a general discussion, the writer will feel that his confessions have not been made in vain. A paper of this kind may contain and bring out some unwelcome truths, yet our lamented medical friend the "Autocrat of the Breakfast-table" once told us that, "negatives multiplied into each other change their sign and become positives," and it is from these very negatives that we mean to get our help. The writer desires to invite your criticism, gentlemen, hostile though it may be, for the square of fault-finding sometimes turns out to be the same thing as eulogy.

If your heart is in your work, if you love your profession with a sincerity and a cordiality born of a chivalrous devotion, if you aspire to, or have attained any little eminence, or have achieved even a small amount of success, it must have been over the rough and chastening roads of failure, and through the fatiguing quagmires and pitfalls of costly blunders; and shall we say at the expense of some priceless lives?

One might obtain a certain amount of satisfaction in reciting sometimes, in the quiet of his study, the words of the immortal Browning:

"Though I do my best I shall scarce succeed.
But what if I fail of my purpose here?
It is but to keep the nerves at strain,
To dry one's eyes and laugh at a fall,
And baffled, get up and begin again,—
So, the chase takes up one's life, that's all."

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The Chologogue Action of Anti-Gout Remedies.—It may be of considerable importance in determining the pathogenesis of gout to note that H. KRONKA (*Zeitsch. f. Exper. Path. u. Therap.*, July 2, 1905) has found that the various antilithic remedies, as benzoic acid, quinic acid, salicylic acid, colchicine, are energetic chologogues.

THE SYMPTOMATIC TREATMENT OF TUBERCULOSIS.

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THE subject of tuberculosis and its treatment is one which has engaged the attention of the medical profession for many years past. Discussions as to the proper sanitary management of the disease, the prevention of its spread, the care of the patient, the proper climatic conditions to be sought in the treatment of individual cases, have all received the consideration of the physician in the past and will continue to be subjects for argument and the exploitation of ideas for some time to come. The consensus of opinion is that, as far as the cure of individual cases is concerned, we are at about the same point from which we started years ago. Now, as heretofore, suitable climate seems to offer the only hope of arresting the progress of the disease, and this only in those cases in which the tuberculous process has not traveled sufficiently far to impair the resistance of the individual.

Remarkable evidence of the value of climate and the proper regulation of the mode of living have been brought forward from time to time in cases of tuberculosis that were discovered in their earlier stages, and sent to localities in which the altitude was higher and the air purer than in a crowded city. In my own experience in a hospital devoted exclusively to the treatment of tuberculosis, I have seen patients gain from ten to forty-five pounds in weight, while the tuberculous process in the lungs became completely arrested after a stay of less than a year in the institution, which was situated on high ground on the outskirts of New York City. Some of the patients, after discharge and residence in the city, returned to the hospital for further treatment, the fibroid envelope which had formed about the focus of disease having been broken down and given the germ opportunity for further activity. Invariably, however, these returning patients gave histories of alcoholic excesses, inability to obtain sufficient food, exposure to cold and wet, etc., as sufficient reasons for their failure to retain the comparatively healthy condition in which they left the institution. From the results I have seen of fresh air treatment, I am convinced that tuberculosis can, if its presence be early detected, be arrested by this means in conjunction with proper regulation of the mode of living. This treatment would be ideal if we could apply it to all phthisical cases, but, unfortunately, the great majority of those afflicted have not the necessary funds with which to defray the expenses of a sojourn in the mountains, and are compelled to remain at home amid unsuitable surroundings, at the mercy of the great white plague.

It is the purpose of this article to call attention to the fact that certain symptoms which occur in the course of the disease should be recognized and effort be made for their relief, in order

that the patient be rendered as comfortable as possible, and placed in a better position to combat the tuberculous process when circumstances prevent his transfer to a much more suitable climate.

The plan in vogue by many physicians to incorporate in their treatment the regulation of diet, hygiene, respiratory calisthenics, etc., is an excellent one, but when they limit their efforts to these latter practices and decry the use of drugs for the relief of symptoms, with the idea in mind that in upbuilding the system the symptoms will be made to disappear, they keep from the patient the means by which he would be vastly assisted in combating the disease. Nothing will contribute more to the failure of a patient to recover from any affection than personal discomfort, and some of the symptoms of tuberculosis are certainly discomfiting.

Cough seems to be the only symptom that receives the attention that, in my opinion, many others equally deserve, and as long as there are coughs there will be as many methods of treatment as there are varieties of this symptom. I have found it a good plan to treat all forms of cough in tuberculosis with sedatives rather than with stimulating expectorants. It is of little use to assist the patient in bringing up the phlegm by stimulating, though loosening the cough, because by this plan the cough becomes a kind of continuous performance, the supply of excretory material remaining almost constant. Most tuberculous coughs are produced by the irritation due to foreign material in the lungs, and the aim in treatment should be to allay rather than promote this irritation.

Pleuritic pain is one of the most distressing symptoms accompanying tuberculosis and one of the most difficult to relieve. The attacks are periodical, occurring at such times as the process reaches the periphery of the lungs. Strapping of the chest on the affected side during expiration, with the internal administration of opiates when the pain is very acute, usually gives the best results. Where there is extensive involvement of tissue the limiting of breathing space by the adhesive strips often produces dyspnea, compelling the removal of the plaster. Painting the chest over the site of the pain with counter-irritants sometimes gives relief, but it is often necessary that the counter-irritant should be of considerable strength. When the condition of the patient warrants it I use

R. Ol. tigllii.....1½ drs.
Tinct. aconit.....1 dr.
Tinct. iodi comp. q.s. ad.....1 oz.

M. Sig. Paint over affected part when necessary.

Great care should be taken in the use of this mixture that it should be painted on lightly and not allowed to run, as it forms large vesicles, which should be confined to the part immediately over the site of the pain. In some patients, whose integument is thicker than normal, several ap-

plications are necessary, but usually one or two paintings will suffice to produce the vesicles.

In the selection of an hypnotic, if one be found necessary, a great deal depends upon the condition of the patient. Such a drug as chloral, for example, should be administered with great caution in cases in which the patient is suffering from an organic heart lesion, whereas in other cases in which the condition of the heart warrants its use it is of exceeding value. If the insomnia depends upon so-called nervousness the bromides, either alone or in combination with some safe hypnotic, will produce beneficial sleep, depending upon the extent of the neurotic condition and the dose of the remedies used. I have made it a practice not to employ any hypnotic which depresses the heart unless this organ is free from disease, and the degree of insomnia is such that it becomes necessary to use one of the more powerful drugs. In all cases, except those in which the patient is confined to bed through extreme weakness, I advise a bath, either tub or sponge, with water at 98° or 100° F., before retiring. In order further to assist in the dilatation of the peripheral arteries and draw the blood from the brain, hot-water bottles applied to the extremities and a bandage about the abdomen will often be found serviceable. I have seen small doses of nitroglycerin used for this purpose, but if it be necessary to resort to drugs to reduce blood pressure, in the effort to induce sleep, I prefer the bromides. When I find that mechanical means are insufficient to produce sleep I generally resort to some simple hypnotic. Of late I have employed with considerable success, except in cases complicated by severe pain, one of the newer remedies: Veronal. In practically every instance, except in cases in which such lesions as tuberculous kidney, pleurisy, etc., caused such suffering as to render it impossible for the patient to sleep unless the pain was first allayed, veronal produced a comforting sleep, lasting from four to eight, and even ten hours, and in no case did it leave any of the distressing after-effects which usually follow the administration of some of the older hypnotics. In insomnia, complicated by severe pain, opium or morphine, given one-half hour before the hypnotic, usually produced sleep. As a rule, in these cases the opiate fails to do more than relieve the pain, and it is necessary to administer the hypnotic to assist its action.

When pulmonary hemorrhage is indirectly the cause of sleeplessness the combination of the bromides with veronal will be found of great advantage, the latter being aided in its effect by the action of the bromides in the reduction of arterial tension. This same action is also of service in diminishing the tension in the lungs, thus minimizing the danger of recurrence of hemorrhage. In cases in which the condition of the stomach was such as to render the selection of a remedy which would not disturb that viscus a matter of importance I found that veronal,

given in hot milk, was always retained. In this regard care should be taken that the condition of the stomach be noted before the administration of any drug, as much depends on the use or abuse to which this organ is subjected, and an ounce of prevention is often worth many pounds of cure.

Laryngitis is probably the most painful and most dangerous of the local manifestations of tuberculosis. In nearly every case it impairs or inhibits deglutition, and the patient is deprived of necessary nourishment, and, in addition to the pain in the larynx, he suffers from hunger and, in extreme cases, actual starvation. A solution of cocaine hydrochlorate (4 to 10 per cent.), painted or sprayed on the larynx, will often afford relief in the milder forms of the disease, anesthetizing the part for a sufficient length of time to enable the patient to swallow his food without pain.

In the severer forms in which the ordinary agents failed, I have used ethyl-chloride to produce local anesthesia. I first used it while resident physician in a hospital devoted to the treatment of tuberculosis, and the results obtained then and since have not only been entirely satisfactory, but in many instances surprising. The value of the remedy in this affection was probably never better exemplified than in the first case in which it was employed. The patient was unable to swallow any food, even a mouthful of milk causing such anguish as to render deglutition impossible. Cocaine, as well as many of the pharmacopœial and proprietary remedies, were applied to the larynx, in the hope of relieving the pain, but without success. As the man was practically starving, the rectum being irritable and unretentive and rendering alimentation impossible by that channel, I decided, as a last resort, to try ethyl-chloride. The result far exceeded expectations, for the patient was enabled to partake of the first nourishment that had entered his stomach without the accompanying pain for weeks. I have used ethyl-chloride in about forty cases since, taking care to spray it directly on the larynx, and have always found it of extreme value in assisting the patient to swallow food, an act which otherwise would have been impossible. The ability to swallow lasted from twenty to forty minutes after spraying, while the patient remained free from pain for periods lasting from one to five hours, depending on the location and extent of the tuberculous process in the larynx.

I do not advocate the use of ethyl-chloride in all forms of tuberculous laryngitis. I believe it would be more harmful than beneficial in the edematous stage, but in the stage of ulceration, when all other applications proved practically inert, I found it not only beneficial but necessary, in order to prevent the patient from succumbing to starvation.

Profuse sweating at night is another symptom which may be relieved by upbuilding the pa-

tient's constitution, but this process is too slow and the hyperhidrosis should be treated when present, as it is frequently the very reason for the failure to gain strength, all other conditions being favorable. Although night-sweats are usually evidences of constitutional weakness, it is none the less true that this weakness is in many instances due to their presence. This symptom will, in the majority of cases, unless the asthenia is profound, yield to the action of the usual anhidrotics employed, but we frequently meet cases with little or no asthenia that fail to react to the ordinary agents. In such cases I look for a neurasthenic condition, and often find that this condition is the cause of the failure of the symptom to respond to treatment. As in insomnia, the addition of the bromide of soda or potash to the anhidrotic used will usually result in checking the sweating. The bromide should be given about one-half hour before, and the anhidrotic just after retiring. I have heretofore used atropine sulphate for the arrest of night-sweats, but of late I have been employing one of the newer products, eumydrin. The action of the latter resembles that of atropine, but I prefer it because it is quicker in its effect, and does not dry up the throat as does atropine. This latter quality is one much to be desired in an anhidrotic, as the dryness of the throat caused by atropine is frequently productive of much distress, particularly in the presence of cough, not only preventing the relief of the latter symptom, but contributing to its production.

The action of eumydrin as a respiratory stimulant is more lasting than that of atropine, a quality in its favor in the treatment of tuberculosis. While I have had uniformly favorable results in the treatment of night-sweats in tuberculosis, cases frequently present themselves which resist the action of any anhidrotic used. Search should then be instituted for the specific condition which prevents relief of the symptom, and, in addition to the administration of the anhidrotic, treatment should be directed along such lines as may be suggested by the cause.

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FOUR CASES OF CEREBROSPINAL MENINGITIS PROBABLY DUE TO THE PNEUMOCOCCUS.

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THE following cases are reported for two reasons, both independent of their inherent clinical interest. First, because they demonstrate in a manner which appears to me to be beyond cavil that the popular teaching to the effect that pneumococcus meningitis is *a priori* a fatal condition, is not altogether warranted by clinical evidence; and second, because from the similarity of their clinical pictures they offer an opportunity of discriminating between this and other forms of cerebrospinal inflammation.

Case 1.—R. M., female, white, aged twenty-three years, engaged in housework. Father died of diabetes. Mother alive and well. Patient had the ordinary diseases of childhood, and also diphtheria, from which she completely recovered. Had pneumonia last February, and during her convalescence went out in rain. Began to feel chilly two days later (three weeks prior to admission to the Philadelphia Hospital), and experienced irregular chills and fever during the next two weeks. Patient did not go to bed. A week passed by before headache appeared. Three days later stiffness of the neck was noted, and active vomiting following the taking of medicine. On April 4, 1905, she was admitted to the ward, subsequent to an attempt on the same day at lumbar puncture by her family physician, who failed to reach the canal. On admission she was mentally excited, her neck rigid, her pupils equal and dilated, but reacting normally to light and distance. Her head seemed "as if it would split open," to use her own expression. The tongue was typhoid in type, the pulse rapid but of fairly good quality; the skin of the arms and legs was hyperemic and hyperesthetic. There was a rose-colored eruption upon the chest and upper arms, disappearing on pressure or stroking. The patellar reflexes were nearly absent. Babinski's phenomenon was present, and Kernig's knee contracture was present in marked degree. The tache cérébrale was prompt and persistent. The patient complained of photophobia and called attention to a diplopia in the left eye. On April 21 (two days later) the right pupil was larger than the left, and ptosis of the left eyelid was present. On April 23 there was also slight external strabismus of the left eye. The pupils were again equal and widely dilated. Nystagmus was noted. On April 24 Dr. Hansell reported "Nystagmus on all forced movements. Occasional divergence of left eye, with limited movement upward. Partial ptosis of left eyelid. Media clear, fundus in both eyes normal."

On May 1 I noted a decided lateral curvature of the spinal column to the right, also the physical signs indicating a healed or quiescent tuberculous involvement of the right apex; also a friction rub and a few fine râles to the left of the sternum in the third interspace. The heart was rapid in action, but all its sounds clear. The second pulmonic sound was accentuated. The abdomen was tender to palpation in the right iliac fossa.

The urine contained a trace of albumin, but was otherwise negative to chemical and microscopical tests.

Treatment.—Great relief from the subjective symptoms followed the complete withdrawal of the cerebrospinal fluid on the day of admission, and without further treatment except a low diet and rest in bed the patient went on into an uninterrupted convalescence. When discharged, about two weeks ago, the eye symptoms had disappeared; there was no rigidity of the neck;

Babinski's phenomenon had disappeared, but Kernig's sign was still positive.

Dr. Rosenberger made the following report upon the clear cerebrospinal fluid: "Upon centrifugalization for several hours no sediment was obtained. Inoculations were made upon agar, but no bacterial growth developed. The original tube was placed in the incubator, and in seventy-two hours a slight sediment was present, which was made up of micrococci resembling pneumococci, occurring in pairs and retaining the dye by Gram's method. No cellular elements were observed."

Case II.—J. K. C., male, aged twenty-two years, occurred in private work. The father and mother were alive and well, one aunt insane, but there was no other suggestion of nervous involvement in the family. I saw him in my office on March 14, 1905. He had a severe headache, which gradually increased in intensity until he next presented himself for inspection two weeks later. He had failed to see Dr. Posey, to whom I had sent him, but on consulting him at this time Dr. Posey sent the following report: "Optic neuritis in both eyes, most marked on the right side. Left-sided ptosis. None of the other extraocular muscles seem to be affected. The irides respond well to light and accommodation stimuli. Vision is normal in both eyes, and there is no restriction in the visual fields. The patient seemed to me to be mildly delirious."

The patient was seen the same evening in St. Agnes' Hospital. There was intense headache, some resistance and pain on pressure over the nuchæ and occiput; the pupils were dilated and equal, and there was ptosis of the left eyelid, also decided palsy of the left side of the face, the tongue, and the lips. The pulse was fairly slow and of high tension. There was no eruption; no herpes. The spleen was not demonstrably enlarged. The abdomen was altogether negative. The heart and lungs were normal, except for a marked accentuation of the second pulmonic sound. No pulmonary lesion could at any time be found.

The patellar and Achilles tendon reflexes were absent; Babinski's phenomenon was suggestive only; Kernig's sign was markedly evident on both sides. There was no hyperesthesia, and no anesthesia. On the following morning, after a seeming amelioration of the headache, the symptoms recurred with the same violence, and the cerebrospinal fluid was withdrawn, about 35 c.c. spurting from the canula in a clear forceful stream. The headache at once became excruciating, and then, within a moment or two, disappeared altogether, and the patient had his first sleep during many days.

The fluid was slightly clouded (not turbid), and smear preparations showed considerable numbers of small encapsulated diplococci resembling the pneumococcus, and retaining the stain by Gram's method. The leucocytes were few in number and were mainly lymphocytes. In

no instance could I detect an intracellular coccus. Dr. O'Malley, examining independently of me, found the same organisms, and thought he discovered one within a polymorphonuclear leucocyte. Cultures on agar and blood serum were all negative. The Widal test was negative, the leucocyte count (blood) was 5,000, and the urine showed no abnormality.

Two hours after the spinal drainage the ptosis had disappeared, the headache had not returned, and the patient was altogether comfortable. The pupils were constantly dilated and equal. The photophobia was absent on the following day.

On April 10 lumbar puncture was performed a second time, owing to the recurrence of severe headache and photophobia. About 20 c.c. of clear fluid under high pressure were obtained. Relief was immediate, as in the former instance, there being on this occasion no preliminary exaggeration of the pain. Prior to this puncture the leucocytes in the peripheral blood numbered 10,800, the differential count showing almost normal relations of the various cell types.

On April 11 the plantar reflexes appeared and were normal. The pupils were still dilated and other reflexes absent. Four rose spots remained.

On April 12 there was the first suggestion of a patellar reflex. On April 13 the spots had disappeared. The patient now began to complain of hunger, and from this time on convalescence was steady. He was last seen by me on May 10, 1905, just prior to his departure from the city. The patellar reflexes were sluggish, though present on both sides; Kernig's sign was still markedly in evidence, and on examination by Dr. Posey there was still found to be a persistent congestion of the optic nerve heads.

On May 30, 1905, the patient wrote that on his return home he had "grippe"; that his eyes again began to hurt, and that he had a jarring feeling in the spinal column on walking. He is now quite well, though Kernig's contracture is still present. The patient had often, to his own knowledge, raised his legs to a right angle without inconvenience prior to this illness.

Case III.—H. D., white, male, aged fifteen years. Family history negative. Admitted to the Philadelphia Hospital May 18, 1905, just prior to the crisis of a pneumonia of the left lower lobe. The symptoms (pneumonia or meningitis) appeared with suddenness, chills, fever, vomiting, three days before his arrival at the hospital. On the following day the crisis occurred. Delirium, intense headache, nausea and vomiting had all been present during the first day of the disease. There was no rash, and rigidity of the neck was absent. The nuchæ were tender to pressure, however, and not only was Kernig's sign present on both sides, but the patellar reflexes were altogether absent. The urine contained considerable albumin, also hyaline and granular casts.

Lumbar puncture was done May 20, 1905, and clear fluid obtained. In the fresh fluid there were

found (Dr. Rosenberger's report) "cocci in pairs, possessing the morphology and tinctorial properties of the pneumococcus." The cultures were all negative. No cellular elements, except erythrocytes were discovered.

Whether owing to or simply following the lumbar puncture the temperature fell to normal and the convalescence was uninterrupted. Unfortunately this patient was discharged before the final observations were made upon the reflexes, and upon the ocular condition.

Case IV.—J. H., white boy, aged seventeen years. Admitted to Philadelphia Hospital on March 11, 1905. Father and mother alive and well; five sisters alive and well. Two sisters dead, one of brain congestion, and another still born. Patient had measles and scarlatina as a child, but recovered perfectly. Smokes cigarettes to excess. Was at work until three days prior to admission, but mother says he was unusually cross and irritable for two weeks before. Three days before he was seen by me he became delirious, "had a high fever," was confused, and talked of fires continually. Complained of severe headache and pain in his left side on coughing. On the day before admission he said his legs burned, and then became actively delirious, rushing about the house. He was admitted in an excited state, but soon relapsed into a stupor, from which he could not be aroused.

On March 13, 1905, there was complete incontinence of urine and feces. The urine contained no albumin, and only a few scattered hyalogramular casts. On March 15 there was also a trace of albumin. The Widal test was negative, as in all of the preceding cases. There was a slight impairment of resonance at the left base, with fine râles, and harsh breath sounds. The second pulmonic sound was accentuated. The pupillary reflexes were positive; the pupils themselves dilated and equal. The tendon reflexes were all absent; Kernig's contracture was present on both sides; Babinski's phenomenon was not evident. Sensation was preserved.

Lumbar puncture was done on March 16 and clear fluid obtained. Dr. Rosenberger reported that "it was negative in regard to bacteria and cellular elements. Inoculations of guinea-pigs were also negative." The eyegrounds were normal, there being merely a slight hyperemia of the disks, which were normal in size. On March 15 it was noted that the mental condition was clearing, the patient being stupid, but neither delirious nor comatose. Kernig's sign was still marked, as was also the *tache cérébrale*, but there was no hyperesthesia. The pulmonary congestion seemed to have all disappeared; in fact, there was never a unanimous opinion among those who studied the case as to whether a pneumonia had actually been present. On March 18 the leucocytes numbered 17,600. The pupil of the left eye measured 5 mm., that of the right eye 4 mm. The irides were sluggish in their response to light, but prompt to accommodation and con-

vergence. The retinal veins were slightly engorged and tortuous. There was now full control over the bladder and rectum. On April 2 there was evidently a gradual return to a clear mental condition. The patient was soon out of bed and hungry. Memory appeared unimpaired. On April 10 he returned to his home, slightly dull mentally, but otherwise well. Kernig's contracture persisted up to the time he was lost sight of.

There are many interesting points connected with these cases, all of which have a positive bearing upon our understanding of the condition: First and foremost is the close association of three cases of meningitis, two without and one with pneumonic involvement, from all of which a diplococcus resembling the pneumococcus was obtained on examination of the cerebrospinal fluid; and one case of meningitis persisting for some time after doubtful pneumonic signs had disappeared, in the fluid from which no bacteria could be found either by direct or by culture methods. The latter case, in fact, suggests the series of instances reported by Wertheimer (*Münch. med. Woch.*, li, No. 23), in which he found a non-bacterial serous meningitis following a number of cases of pneumonia. In one of these cases he performed lumbar puncture fourteen times within a month, with final recovery.

Another item of interest centers in the fact that although diplococci resembling pneumococci were evident in smear preparations from the fibrin film which forms after a few hours in all cerebrospinal fluids (Cases I and II), and in Cases II and III from the fluid itself before the film had formed, nevertheless from only one of these specimens could the organism be grown, and then only in the fluid itself, appearing 72 hours after being placed in the incubator. This difficulty of cultivation would render the suspicion at least tenable, that we were dealing with the meningococcus, were not the morphology and the staining qualities in Cases I and II, and in Case III also the preceding pneumonia, so strongly in evidence for the pneumococcus. In each and every case the prevalence of the meningococcus infection rather biased the mind toward this more frequent form of epidemic meningitis. A case in which the typical intracellular organism was studied was under observation at almost the same time in another ward of the same hospital, and in the same service.

Again the finding of one intracellular diplococcus in the fluid from Case II might seem to indicate a possible confusion with the meningococcus, were it not for the positive retention of the stain by Gram's method in every instance. Moreover, L. B. Wilson reported in 1901 (*Journal of the American Medical Association*, Dec. 21, p. 1675) two cases of cerebrospinal meningitis in which intracellular pneumococci were found not only in the cerebrospinal fluid within the leucocytes before death, but also in the brain exudate post mortem. The leucocytes contained from one to twelve cocci each.

In Case II several stains were employed by me to eliminate the possibility of introducing an extraneous organism with the staining fluid. Thus it would seem fair to conclude either that the pneumococcus was actually present, and the cause of the meningitis, or that in each and every case the diplococcus of Weichselbaum must have taken on a new morphology and staining qualities. The former of the two is, of course, the more natural and rational inference, in spite of the almost inexplicable refusal of the organism to grow upon the various culture media.

It is of vital importance in discussing cases such as the foregoing that the diagnosis of cerebrospinal inflammation be established beyond all reasonable doubt. Otherwise the mere finding of bacteria in the cerebrospinal fluid may have no more significance than the finding of pneumococci in the blood of the majority of patients upon a ward upon which a case of pneumonia has been treated. Especially is this true if we are to place reliance upon the accuracy of Cathelin's studies (*Presse Medicale*, II, No. 90, 1903), which seem to demonstrate a constant intercommunication between the bloodstream and the cerebrospinal fluid by means of lymph vessels. Each of the cases considered in this paper, however, appears to give abundant evidence of inflammatory involvement of both the spinal and cerebral meninges. Case I showed mild delirium, rigidity of the muscles of the neck, pain on pressure over the cervical vertebrae, intense headache, congestion of the optic disk, photophobia, inequality of the pupils, ptosis of the left eyelid, slight external strabismus, nystagmus; also loss of the tendon reflexes, and the appearance of the Babinski and Kernig's phenomena. The temperature chart also resembles the type usually seen in cerebrospinal infections of a mild grade. Still more important, however, was the association of the foregoing picture with a great excess of cerebrospinal fluid, and the prompt relief of the symptoms by the evacuation of the latter.

Case II presented all the symptoms seen in Case I, and in addition a double optic neuritis of a much more advanced degree, palsy of the muscles controlled by bulbar centers, and the largest quantity of cerebrospinal fluid obtained from any of the cases studied in this connection. Case III appears to me the only doubtful one of the four, and yet even here the autopsy would be necessary to prove that the symptom-complex was not that of meningitis, the probability being for rather than against. Case IV admits of no doubt of extensive meningeal involvement, the offending organism being the only question in dispute. Councilman's recent paper establishes beyond question what was taken for granted before, that all cases of actual meningitis are cerebrospinal, and were this not the case the symptoms would demonstrate it to be true at least with regard to the cases under discussion.

In three of the four cases the onset was sudden, characterized by a chill, vomiting, and mental ex-

citement. In one (Case II) the prodromes extended over the greater portion of a month, consisting mainly of occipital headache, and eventually the symptom-complex of optic neuritis. At the end of the month delirium set in without warning, disappearing only with the relief of intracranial pressure by lumbar puncture.

Cephalalgia was present and intense in every case from the start until delirium or coma set in. In Cases I and II the relief following cerebrospinal drainage left no doubt as to the etiology of the headache. In Case II the headache and ocular distress returned one week after the first lumbar puncture, and were dissipated at once by a second emptying of the canal. *Delirium* was present early in the disease in all of the cases except Case II, in which it appeared after a long prodromal period, and in all it disappeared after drainage of the cerebrospinal canal. Only in Case IV was *coma* present, following the initial delirium and persisting for eight or ten days. It finally yielded, and when the patient was lost sight of he was practically clear in mind.

In all of the cases the patellar and plantar reflexes were absent on both sides very early and throughout the course of the disease. In all they gradually returned until they appeared normal. Kernig's contracture was present in the hamstring muscles (not in the arms) in all, but in Case I the patient stated that "she never could straighten out her knees." In Case II, on the other hand, the patient remembers distinctly that he could. In Cases III and IV the patients had no clear knowledge on the subject. In none of the four had Kernig's sign disappeared up to the time they were lost sight of by me. Babinski's dorsal reflex was present at some time in all; in none, however, did it persist until the patient was out of bed. The ocular reflexes appeared normal without exception. The tendon reflexes of the upper extremity appeared intermittently and irregularly and then abnormal.

As already stated, the *ocular reflexes* were almost normal in every case and at all times. In Case I on admission the pupils were equal and dilated. Later they were unequal, ptosis of the left lid appearing simultaneously with contraction of the left pupil, the right remaining dilated. In Case II the pupils were at all times dilated and equal. In Case III I find no note as to the size of the pupils. In Case IV they were at first equally dilated, and subsequently the left pupil became the larger of the two. In Cases I and II there was marked *ptosis* of the left lid, disappearing almost at once in Case II following the drainage of the cerebrospinal canal. In Case I it was much less marked following lumbar puncture, but disappeared finally only after several weeks time. Severe inflammation was evident in both optic disks in Case II. In Cases I and IV the disk was decidedly hyperemic. In Case III the eye-grounds were not examined.

In all of the cases *rigidity* of the muscles of the neck and pain on pressure over the lower

cervical vertebrae were constant and early symptoms. In Cases I and II the rigidity was much less marked following the lumbar drainage. In Case IV the patient showed a decided tendency to contracture of the hamstring tendons for some time during his early convalescence.

The temperature in Cases I and II showed a marked tendency to an evening rise and a morning fall, the acme averaging 100° F., but in Case I frequently approaching 102° F., and once exceeding 103° F. In Cases III and IV the resolving of the pneumonia, whether primary or intercurrent, apparently marked the final fall of the febrile curve. In Case II, particularly, the temperature fell from an irregular character and an acme of $100 \frac{2}{5}^{\circ}$ F., to normal, and the pulse from 35 to 70, where they remained for a few days, presumably until the cerebrospinal fluid again formed in excess. In Cases III and IV the temperature appeared to be that of a convalescent pneumonia. The pulse frequency in Case I, a nervous young woman, averaged 110 to 120; and in Case II, a phlegmatic young man, it never exceeded 85 until he arose from his bed in his final convalescence. In Case III it averaged 120 up to the supposed crisis, and then fell to normal, synchronously with the temperature. The respiratory rate in Case I only once rose above 28 (32). It averaged 24. In Case II it ran along the normal line. In Cases III and IV, complicated with pneumonia, the respiratory rhythm and frequency varied with the pulmonary condition from 45 to normal.

We are able from these figures to draw but one conclusion, and that with due allowance made for temperamental differences, to the effect that the pulse rate tended toward a relative bradycardia rather than the tachycardia usually noted in the meningococcus infection. From the temperature and respiration records there is merely the irregular character of the febrile curve to be noted, and its tendency to fall to the normal in the early morning hours; also the constantly normal respiratory rate, when uninfluenced by complicating conditions.

In Cases I, II and IV there were present a few rose-colored, typhoid-like spots upon the chest, abdomen and back. These disappeared invariably soon after the beginning of convalescence. In none of the cases were petechiae noted. Case I presented marked hyperesthesia of the legs, and especially the pretibial surfaces; the lower limbs were also decidedly hyperemic for several days subsequent to the patient's admission to the hospital. Herpes was absent in all except Case I.

The only abnormality discovered by physical examination of the chest occurred in the lungs, and in the second pulmonic cardiac sounds of Cases I, III and IV. Case I showed a fibroid condition of the right apex, certainly quiescent, and probably a healed tuberculous area. Case III was admitted to the hospital with consolidation of the base of the left lower lobe. Case IV, for

a day or so, showed a small area of probable bronchopneumonic infiltration directly under the angle of the left scapula. In all of these cases the second pulmonic sound was markedly accentuated, whether a pulmonary lesion was evident or not. The heart was otherwise normal.

The abdominal examination was altogether negative. Neither the spleen nor the liver was enlarged nor tender to percussion or palpation in any of the cases.

Contrary to the general experience in cases of pneumococcus infection, the cerebrospinal fluid in three of these cases was perfectly clear. In one case (Case II) it was slightly turbid. I have seen also in meningococcus meningitis a number of cases in which the fluid was perfectly clear, the case already alluded to in this paper offering an example of this kind. It seems to me probable that the character of the fluid, whether purulent or clear, must depend more upon the virulence of the infecting organism and upon the resistance of the individual than upon any definite rule of occurrence. It may well be, moreover, that early and complete evacuation of the infected contents may forestall a purulent inflammation of the meninges, and perhaps occasionally prevent a serous exudate from going on into purulent metamorphosis.

It is worthy of notice that Case II, by all odds the most severe of the four, showed at first a normal leucocyte count (5,000), and later a relative increase to 10,800. Compared with the usual leucocytosis of cerebrospinal inflammation this is, of course, noteworthy, and may perhaps be ascribed to the same early relief of intracranial tension. Unfortunately no record was preserved of the leucocyte count in the other cases. There was also a slight reduction in the percentage of hemoglobin, and in the number of erythrocytes in the blood of Case II, but no other pathological changes than those usually found in mild infectious conditions.

In all four instances the urine contained albumin in small quantities, as well as more or less microscopic sediment of renal origin, during the active stage of the disease.

The treatment in all of the cases was identical, and consisted in the prompt withdrawal of all the obtainable cerebrospinal fluid, with the object in view of relieving intracerebrospinal hypertension. That the degree of pressure was excessive was evidenced by the forceful jet of fluid through the canula, and by the amount of fluid obtained, in one instance considerably over one ounce.

The result was similar to that obtained in many cases of uremic hypertension, viz., almost immediate relief from the symptoms of intracranial pressure. In Case II lumbar puncture was performed on two occasions, a week apart, and on both improvement was prompt.

In Case II mercuric chloride and KI were employed for a time, and in Case IV sodium iodide was used for a few days. No other medication was attempted. With rest in bed, a low dietary,

and free purgation the result in all four cases proved favorable and the patients are now apparently well.

It is my conviction that these cases were all instances of mild infection, and that the treatment merely furthered an inevitable convalescence. On the other hand, it would appear likely, from the positive reaction following thorough drainage of the cerebrospinal cavities, that the error of those who have heretofore found lumbar puncture unavailing may have rested upon the fact that too little fluid was withdrawn to afford a real or permanent lightening of the load. The fact must not be lost sight of that, even when all has been removed it may reform and recollect, sometimes more than once prior to recovery.

CONCLUSIONS.

1. While not definitely proven, it is highly probable that at least three of these cases (I, II and III) were due to pneumococcus infection.

2. That pneumococcus cerebrospinal meningitis, while usually of serious and often fatal significance, may run a mild course and terminate favorably, even in a series of cases.

3. That thorough cerebrospinal drainage not only exerts a favorable influence upon the symptoms, but may render mild an otherwise grave condition.

4. It would appear possible from the study of these cases to conclude that the clinical laboratory findings (character of the cerebrospinal fluid, blood picture, etc.) may be fundamentally affected by early and complete relief of intracerebrospinal drainage.

THE GYNECOLOGIC BLADDER.¹

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TO THE experienced student of womankind and her ailments, all things are possible, some improbable; all signs and symptoms at times fail to declare with truthfulness the exact condition under consideration. Immaculate conception, clap and chancre are not uncommon; pseudomata, pseudalgia, and pseudocyesis invade the belly and brain and are as difficult to eradicate as the real infections of the Neisserian coccus.

Within the female pelvis are found "three tracts or channels, each endowed with special functions; each subdividing and subject to changes in size, shape and consistency necessary for the fulfillment thereof. These tracts, independent, yet wonderfully interdependent, correlated, acting each for itself, yet every action affecting its neighbor for good or evil, work together the one with the other, in such intimate relationship as to require the most thorough knowledge of their anatomy, functions, and pathology to determine (1) which is the sufferer,

(2) which is at fault, and (3) toward which we must direct our therapeutic efforts."²

It was somewhat startling, after reviewing 500 consecutive histories of cases seen by the writer at the Roosevelt Hospital (out-patient department) to find that in 213 (42.6 per cent.) the bladder was referred to as in some way abnormal and with striking uniformity, viz.:

Histories.	With abnormal urination.
Nos. 1601-1700.....	53
Nos. 1701-1800.....	36
Nos. 1801-1900.....	46
Nos. 1901-2000.....	42
Nos. 2001-2100.....	36
Total.....	213
	42.6 per cent.

Omitting all but the essential details, let us pass rapidly in review several cases illustrating the numerous variations from the normal, whereby the bladder as a reservoir and its expulsive power may be modified or interfered with.

In Children.—Six Cases. *Case 1679.*—Girl, five years old; screams while passing her water; yellow discharge from urethra and vagina, labia bathed in pus, excoriated. Diagnosis, gonorrheal urethritis and vaginitis. Treatment: Irrigation of the vagina with boric acid solution, followed by silver nitrate solution, ten grains to the ounce.

Case 1648.—Girl, seven years old; frequent painful urination. Urine very acid. Diagnosis, aciduria. Treatment: Buchu mixture, half dram in six ounces of water, every two hours.

Case 1828.—Colored girl, thirteen years old; cannot hold her water, day or night. Prepuce adherent to clitoris. Clitoris hypertrophied, hardened. Masturbation. Treatment: Amputation clitoris. Six weeks later mother reports incontinence stopped.

Case 1895.—White girl, eleven years old. Clitoris small, labia minora and prepuce hypertrophied, hips, mons and pelvis "feminine type." Hymen admits index finger, edge thickened. Diagnosis: Traumatic vaginitis (finger or boy). Parent told to watch her. She did not return.

Of Glenard's disease in children we have seen but few cases, probably because of the small number of children referred to the gynecologic department. The following corresponds with that condition in adult nullipara:

Case 1862.—Girl, eleven years old. For about one year has suffered with pain in her back, both iliac regions, right hypochondriac and epigastric regions; belching, bloating and indigestion; bowels move daily; urination painful and excessive at times. Examination shows lower pole of right kidney palpable, greater curvature of the stomach on level with umbilicus. Abdomen distinctly protuberant. Diagnosis: Intermittent hydronephrosis, Glenard's disease. Treatment: Advised a special corset, to support prolapsed stomach and kidney.

¹ Read before the Genito-Urinary Section, of the Eastern Medical Society, March 7, 1905.

² New York Medical Journal, March 29, 1902.

Case 2047.—Girl, fifteen years old, 5 feet 2 inches tall, weight 100 pounds, distinctly overgrown; menstruated at thirteen years every twenty-eight days, for four or five days, flow moderate, good color, and regular up to two months ago. Complains of "wetting bed" at night; frontal headache, cardiac palpitation. Very anemic; with granular lids, muscles of right eye recently cut. Diagnosis: Chlorosis, associated with extraordinary growth. Treatment: Atropine sulphate, grain 1-100 at 4 and 8 P.M., with tablet of iron, arsenic, quinine and strychnine, from 3 to 12 per day. Result: Menstruation reappeared the next week, and she had wet the bed but once during that time.

Adults.—Among the 207 patients sixteen years or over there was—

	Instances
Frequent urination (every minute to two or three hours).....	55
Frequent urination with burning or pain...	27
Frequent urination, occasionally.....	1
Frequent urination at night.....	3
Frequent urination in daytime.....	3
Frequent urination night and day.....	3
Infrequent urination.....	3
Constant desire to urinate.....	7
Incontinence.....	7
Incontinence day and night.....	2
Inability to retain urine at times.....	4
Burning, cutting, sharp pain during or after (urethral).....	50
Burning at times.....	9
Vesical tenesmus after urination.....	7
Pain in holding urine.....	4
Urgent urination.....	3
Excessive urination.....	5
Scanty urination.....	5
Alternate excessive and scanty urination.....	1
Hematuria.....	3

The vaginal discharge was said (by the patient) to be

	Cases.
Yellow or creamy.....	78
White.....	47
Greenish-yellow.....	2
Bloody.....	4

Total..... 131

Purulent Urethrovaginitis.—Fifty-three cases (25 per cent.) were classified as of infectious origin and presented classic symptoms thereof, viz.: Frequent painful urination, suprapubic pain, with a creamy discharge from the vagina, often from the urethra, and not infrequently from the cervix uteri. Of this group the youngest was sixteen years, the oldest thirty-two years, between sixteen and nineteen years, 8 cases; between twenty and twenty-nine years, 37 cases; between thirty and thirty-two years, 8 cases, intimating at least that the gonococcus flourishes most luxuriously during the third decade of female life.

Urethral Caruncle, Lumbar Sinus after Nephrorrhaphy.—Case 1883.—Twenty-six years old, married four years, never pregnant. Four years

ago operation for removal of ovaries and tuberculous peritonitis. Five months ago both prolapsed kidneys sewed up. Symptoms: Painful, frequent urination; white vaginal discharge; dysparunia; headache; bowels move 2-3 times per week; poor appetite. Since operation a sinus has discharged pus from wound over left kidney. Examination: Both kidneys well up; no backache since they were sutured. Pus running from sinus in left loin; a small, very sensitive caruncle at meatus externus urethrae. Treatment: Advised opening the lumbar sinus; silver nitrate 6 per cent. to caruncle; sinus dressed with balsam oil. Two months later, after severe pain in left loin, she entered St. Vincent's Hospital, the sinus was laid open and a pad of gauze removed therefrom. Five months after, left loin healed; dysparunia still caused by reappearance of caruncle. Advised operative removal as the only means of permanent cure.

Hematuria.—Case 1878.—Patient complained of abdominal and cardiac pain, painful urination, and bloody urine. Examination demonstrated ante flexion of the cervix; a flattened pelvis, superior strait 3 inches; urine by catheter clear, acid and blood in the end of the catheter when withdrawn. Diagnosis: Urethritis; treated by local applications of silver nitrate, 6 per cent., and alkalies internally, with free evacuation of the constipated bowel.

Hematuria Due to Prolapsed Right Kidney.—Case 1785.—H. B., forty-two years old, mother of two children, complains of the "misery" in the small of her back and along the right loin, for a week past. Voids urine frequently, without pain, but like blood.

Examination of the right loin and hyperchondrium discloses a very tense mass, which on careful manipulation can be displaced upward above the chondral border. Microscopically the urine shows blood thoroughly admixed with the urine. Treatment: Rest in bed, and an alkaline mixture. Advised to rub the lump upward should pain recur. Three days later she reported the urine clear and freedom from pain. No recurrence.

Trigonitis.—This not uncommon condition, the chief characteristic of which is a constant desire to urinate, or a feeling that the bladder has not been completely emptied, is exemplified by Case 1661, a married woman of twenty-seven years, who, since an operation for "tear of the womb" 3½ years ago, has been suffering from burning micturition and a constant desire to pass water; pain in her right and left iliacs, sacral region; a congestive, frontal headache, and excessive creamy vaginal discharge. Examination: Urine acid; urethra tender; trigone very sensitive to probe. Uterine fundus lies on bladder, cervical mobility limited by fibrous thickening of the utero-sacral ligaments. Treatment: Injection of 50 per cent. ichthyol in water, into the bladder, by means of a "P" syringe; "Buchu mixture" internally; and an Albert Smith pessary to relieve

the drag of the uterus on the thickened uterosacral ligaments. Later a two per cent. silver solution was applied every fourth day to the urethra.

Trigonitis; Internal Hemorrhoids; Retroversion.—Case 1647 represents a still more complicated type. Mrs. C. C., aged thirty-nine years, two children, instrumental labor, cervix deeply lacerated and since repaired, uterus drawn to the left by cicatrix. Symptoms: Right pelvic pain; creamy vaginal discharge; frequent urination day and night; mucous, bloody stools; diarrhea, and piles which "come down"; a ravenous appetite associated with "gas on the stomach." Examination: Urine alkaline; cervix uteri one inch from the hymen; fundus in sacral hollow; well-marked internal hemorrhoids, with fissure; trigone very sensitive. Diagnosis: Trigonitis, mucous colitis, internal hemorrhoids, fissure in ano; retroversion uterus dragging on old cervical scar; referred to hospital for removal of hemorrhoids and appropriate remedies.

Pelvic Peritonitis.—The anabasis of specific infection into the tubes and peritoneal cavity is announced by intense pain, fever, abnormal rigidity, and bladder irritation, as in case 1802, I. D., colored, sixteen years old, complained of severe suprapubic pain for one week; yellowish-red vaginal discharge, burning micturition. The girl's face indicated that she was suffering; the abdominal tenderness and rigidity, with the character of the discharge were sufficient to complete the clinical picture of gonorrheal vaginitis, urethritis, and peritonitis, without making a vaginal examination.

Plaster-of-Paris Pelvis.—Three cases of pelvic peritonitis had reached the stage of exudation with excessive fibrin formation, filling the pelvis, embedding the uterus, and adnexa in a hard mass which from its striking resemblance has been designated "plaster-of-Paris" pelvis.

Case 1824.—M. H., thirty-two years, married twelve years, one child ten years ago, labor easy. For the past two weeks she has had severe pain, especially in left iliac region; yellow discharge; pain while passing water; bowels move only after salts or oil. On examination the fingers come in contact with a hard mass filling the pelvis, embedding the pelvic viscera so completely as to render them indistinguishable the one from the other. Treatment in these cases works wonders. Hot enemata, and vaginal douches; ice-coil to the abdomen; free evacuation of bowels; rest in bed; and above all vaginal packing with gauze saturated with ichthylol 25 per cent., glycerin 75 per cent. and renewed every day, will result in a rapid subsidence of the symptoms, and melting away of the exudate as snow before the sun. The same ichthylol solution may be applied to the urethra, through a Kelly cystoscope or bivalve urethroscope.

Nine months later, my substitute notes the return of this patient saying that for the past

three weeks she had suffered from burning and itching, especially while urinating.

Pyosalpinx.—Dysuria of recent date may cause such intense suffering as to overshadow what to the examiner's mind is of much greater importance, as illustrated by Case 1823. K. D., aged twenty-seven years, married nine years, two children, last seven years old. For the past week has experienced severe pain during urination, pelvic and sacral pain. Bowels move two to three times a week. Pelvic examination shows a small uterus fixed on the left, anteriorly, right tube distended, size of large orange, the whole being immobilized by a considerable plastic exudate. Diagnosis: Gonorrheal urethritis, vaginitis, salpingitis and peritonitis. Advised to enter hospital.

Reinfection or Recrudescence after operative removal and apparent cure of bladder symptoms may take place as in Case 1842. M. G., aged twenty-seven years, married three years. Operation for removal of ovarian abscess four months ago, at Bellevue Hospital. For the past two weeks burning urination, and vaginal discharge. Diagnosis: Infectious urethrovaginitis.

Cystocele, Etc.—"The womb comes down," was a prominent symptom in 18 of the 213 bladder cases we are now considering and on examination proved to be

	Cases.
External prolapse of bladder and urethra.....	1
External prolapse of bladder, urethra and cervix.....	1
External prolapse of bladder, urethra, cervix and rectum.....	2
External prolapse of urethra.....	1
Internal prolapse of bladder.....	1
Internal prolapse of bladder, retroversion 2°.....	2
Internal prolapse of bladder and urethra, retroversion 2°.....	2
Internal prolapse of bladder, urethra and rectum.....	1
Internal prolapse of bladder, rectum and retroversion 2°.....	1
Internal prolapse of bladder cervix uteri, retroversion 2°.....	1
Internal prolapse of uterus (at vulva), retroversion 3°.....	2
Internal prolapse of rectum, retroversion 2°.....	2
Internal prolapse of bladder and rectum (pregnant).....	1

As might be expected in this class of cases, frequency of urination and difficulty of control or incontinence are distressing to the patient, and when there is added sacral pain, or "bearing down," and in some, pain in one or other iliac region, their suffering is no doubt very real.

Owing to laceration of the perineum and the weight of the hypertrophied uterus, only the hollow, round, rubber pessaries (soft or hard) will support the prolapsed bladder; in Case 1669 the vaginal irritation was too great to tolerate a pessary, and in most cases radical operation must be resorted to, extreme care being exercised to reimplant the bladder at a high level, or excise the whole vagina as practised by Martin and others.

Pregnancy and the Bladder.—Of the 500 cases under consideration there were sixty-nine pregnant women, and of these 37 (52 per cent.) complained of abnormal urination.

	Cases.
Frequent or very frequent.....	15
Frequent and painful.....	5
Frequent at night.....	1
Infrequent.....	1
Cannot hold urine.....	3
Cannot hold urine (always so).....	1
Painful or burning micturition.....	6
Constant desire.....	2

As to the period of gestation, 13 were three months or under; 14 over three months and under seven months; 3 between seven months and full term; 7 period not recorded.

Case 2028 was of interest, the three months pregnant uterus being firmly wedged in the pelvis by adhesions, requiring tamponade in the knee-chest posture, for six weeks, to accomplish its release. After this was accomplished she had no further discomfort, and expects to be delivered at term the last week in April (16th).

Case 2053.—Patient suffered with pain in her back, cystoectocoele and constant desire to urinate; all relieved by a round, hollow, hard rubber pessary.

Case 1879.—Pregnant three months, urethritis, Bartholinitis, relieved by ichthyol to the urethra, and the authors' button-hole operation for the cure of Bartholinitis.

Case 1926, eighteen years old, pregnant; vulva chancroid and urethral caruncle. Treatment: Iodized phenol to chancroid and caruncle. Dusted with calomel t.i.d.

Pregnancy, Albuminuria, Syphilis.—Mrs. C. E., aged thirty-three years, twice married, four children last thirteen months ago; several miscarriages; acquired syphilis from first husband; uremic convulsions after last child, and blindness for some time. Symptoms: Pressure on the bladder; great pain on lying down, a weighty feeling, as if going to be unwell, and abdominal soreness. Papulopustular rash on face; ankles swollen; last menstruation, Dec. 4, 1903, three months ago. Examination showed uterus enlarged, pregnant about three months; albumin in urine. Treatment: Abdominal binder to support lax abdomen; antiluetic treatment throughout pregnancy for the child's sake and to prevent recurrence of convulsions. Under this regime the urine cleared, a typical syphilitic child was born Aug. 30, 1903, and under calomel, developed with fair degree of health.

Alexander's Operation.—Pressure of a uterus too tightly held against the bladder may interfere with its capacity as in Case 1675. M. B., aged thirty-two years, six children, last four years old. Alexander's operation, at Bellevue Hospital, fourteen months ago, following perineorrhaphy six months prior. Symptoms: Constant desire to urinate; suprapubic pain especially on the right side, for the past two years;

medicine daily to move bowels. Examination: Medium-sized uterus held firmly against the bladder, causing painful dragging; abdominal wall relaxed; right kidney three inches below the chondral border. Diagnosis: Bladder irritation and pain due to uterine pressure on bladder and dragging on round ligaments, with enteroptosis. Treatment: Pessary inserted; special corset advised; one week later reported wearing of pessary too painful.

Sixteen months later—a soft cystic mass on the right-ovarian. Advised operation for removal of cyst and uterus as the only hope for radical relief.

Ventrofixation Uteri.—One of the disagreeable results following suture of the uterus to the anterior abdominal wall, not infrequently is that it interferes with the bladder as a reservoir and modifies its ability to expel urine. Case 2016, F. B., aged thirty-three years, complains of very little urine one day, very much next day, and at times burning when passing water. She has been operated on, the womb lifted, curetted and fistula and abscess removed. Pain over the sacrum, uncomfortable "fulness" during coition; three to four stools weekly. Examination shows fundus uteri attached to the anterior abdominal wall very painful to touch.

These cases represent a few of the factors, which modify the functions of the bladder of the female, and lead to the following conclusions:

1. That frequent and painful micturition is met with in about one-third of females who apply for gynecologic advice.

2. That in 25 per cent. this is due to specific (gonorrhea) urethritis, often associated with vaginitis, etc.

3. That but few cases of gonorrheic infection are met with after thirty-two years.

4. That vesical prolapse and intrapelvic or abdominal tumors are the most common factors after thirty years.

5. That uterine displacement, inflammation involving the broad, the uterosacral ligaments, the tubes and ovaries must be reckoned with, and relieved by appropriate measures before the bladder symptoms can be cured.

6. That as changes in the urine producing symptoms do not occur in more than 5 per cent. of all cases, after medical treatment has been tried for a time and found wanting, the pelvis should be explored digitally, and the anal region inspected, not infrequently the rectum and sigmoid as well. Whenever urinalysis points to calculi or infection in the bladder, ureter, or kidney it is our custom to pass the cystoscope and catheterize the ureter.

60 West Fifty-sixth Street.

Harvey Society.—The second lecture of the Harvey Society course will be given by Professor Carl von Noorden, of Frankfurt-a.-M., Germany, at the New York Academy of Medicine, on Saturday, October 14, at 8.30 P.M. Subject: "Modern Problems of Metabolism."

IDEAL DENTAL NARCOSIS.

BY MAURICE GREEN, D.D.S.,

OF NEW YORK;
CHIEF OF CLINICAL STAFF OF NEW YORK COLLEGE OF
DENTISTRY.

CONSIDERING that nitrous oxide has been the main general anesthetic used by the dental surgeon for many years, with practically no fatalities, it will be a hard matter to convince the profession that there is another anesthetic which, if properly used, equals nitrous oxide in safety and far surpasses it in many other respects.

I refer to pure ethyl chloride, which has of late been frequently heard from in the field of general anesthesia and with which I have experimented for about five years, giving between two and three hundred anesthetics with continued good results up to the present day. With the apparatus and method of administration I now use, I have discarded nitrous oxide entirely for the following reasons:

The ethyl chloride apparatus is portable, simple, cheap, durable and cleanly, can be entirely taken apart and sterilized.

The duration of period of narcosis is from one and a half to three minutes, and requires less than one minute to get the patient under. The cost per anesthesia is less than nitrous oxide, seldom exceeding ten cents.

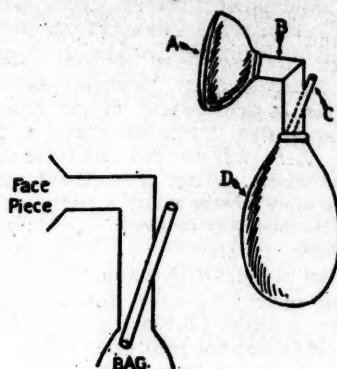
There is absolutely no cyanosis, the tongue remains normal in size, it is noiseless in administering, hemorrhages are of normal duration, patient is completely anesthetized and feels no pain, sees and hears nothing. It is absolutely safe, from my experience, and available statistics of many thousand cases.

To one who has never given or seen ethyl chloride administered these claims may appear preposterous, but to those who have already begun to use this anesthetic under the proper methods of administration, they appear as pure and simple facts.

The inhaler which I have used of late and found the most practical is very simple in its construction, and also the most economical, as the ethyl chloride can be sprayed in from a large tube and you need use no more than is required for one patient; the diagram in next column is explanatory.

Merely spray a small amount of ethyl chloride into the admission tube, cover opening of same with your thumb, allow patient to take six or eight inhalations, then repeat this procedure until patient snores; when the stage for operation has begun, work leisurely, as patient will be sufficiently anesthetized for a number of extractions. Three grams of ethyl chloride usually suffices; five grams is about the maximum amount required. A container with self-closing device is most practical; if possible, have it graduated and with heavy spray, as this economizes time. Contra-indications same as for nitrous oxide. Patient revives normally without after-effects; vomiting may occur, but of no severity.

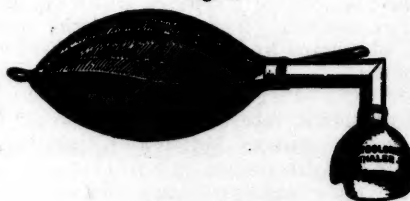
Fig. 1.



Mechanism of Inhaler.

A.—Face piece, flexible rubber; B.—Metal tubing about one inch in diameter; C.—Metal tube conducting ethyl chloride from container into bag; D.—Flexible rubber bag.

Fig. 2.



Inhaler complete.

It has been my fortune to see this anesthetic administered a great many times before I ventured into the field, and I will say that any dentist giving it a fair trial, with an apparatus on similar principles as the one I have described, will sooner or later discard the cumbersome nitrous oxide apparatus now so generally used.

As a preliminary anesthetic to chloroform or ether ethyl chloride is fast supplanting nitrous oxide with the medical profession and anesthetists in general.

The question I am most frequently asked is, what becomes of the CO_2 exhaled into the bag and rebreathed. This forms a seeming beneficial combination with the ethyl chloride and makes a stronger anesthetic, thereby requiring a lesser quantity of the drug, also assuring the patient more safety on account of less ethyl chloride being administered. No deleterious effects on this account have been noticed, and these facts have been especially dwelt on by Hewitt, of England, and Ware, of New York, both of whom have adopted the bag method with success.

With ethyl chloride, ordinary precautions for the patient's welfare are required, about the same as with nitrous oxide. A mouthprop is necessary, the muscles being slightly contracted at the beginning, but if the anesthesia is pushed to a long period the muscles relax. The res-

piration increases, pulsation slightly increases in number but not in force, higher centers appear stimulated (a distinct advantage) and patient looks normal during entire period.

Children are excellent subjects, alcoholics poor and unruly subjects; neurotics may be restless, but can be anesthetized without trouble.

I say again that if this anesthetic be given a fair trial, there will be less fractured alveolar processes and torn gums in tooth extraction, as patients are anesthetized for a sufficient period to allow the operator to work very deliberately, and the patient's tongue never swells up so as to interfere with the instruments used.

1190 Lexington Avenue.

MEDICAL PROGRESS.

SURGERY.

Shoulder Luxations in Childhood.—A treatment for congenital and acquired luxations of the shoulder-joint is formulated by ROYAL WHITMAN (*Annals of Surg.*, July, 1905). Three cases are described: True congenital, those acquired by violence at birth, and those resulting from injury to the brachial plexus in delivery. The last class is relatively the most frequent. In all cases the first indication is to reduce the deformity. In cases of the third class the ultimate aim is to overcome the inward rotation of the humerus in order that supinations of the forearm may be utilized. The treatment advocated is similar to that of bloodless reduction at the hip-joint. The child, having been anesthetized, is brought to the edge of the table. The shoulder is grasped firmly with one hand and with the other the arm is drawn upward and backward with a pump-handle movement. When the parts become relaxed the head of the bone is levered forward by the thumb. Then abduction is overcome and the head is forced upward. The extremity is then fixed in the overcorrected position by means of plaster bandages, including the thorax. The object of fixation is to allow contraction of the posterior part of the capsule and obliteration of the old articulations; consequently, the part must be fixed at least three months. The after-treatment is of great importance. This consists of daily passive forcible movements to the extreme limits in the directions formerly restricted. When motion becomes fairly free, massage and re-education in function are indicated.

Acute Diffuse Suppurative Peritonitis.—S. J. YOUNG (*Journal A. M. A.*, August 26) has interrogated a number of prominent surgeons as to their opinions as to the propriety of operation in acute diffuse suppurative peritonitis, its contraindications, their methods and experience, and from their answers and his study of the subject, formulates the following general conclusions as to the surgical treatment of the conditions: (1) Early operations, and it must be remembered that this implies an early diagnosis. Do not wait for shock, which is a symptom of overwhelming infection. Learn to recognize the early symptoms as stated by Murphy: "Pain, nausea and vomiting, localized tenderness, circumscribed flatness on piano percussion, elevation of temperature and hyperleucocytosis in the order named." I repeat it, operate early. (2) **Method**—Simple incision with simple drainage, placed in the pelvis and in such other fossæ as seem

to require drainage. Perforations should be closed, and the appendix removed if it be the offender, provided these things can be done without too much handling of the viscera. (3) Fowler position to retard lymphatic absorption. (4) Physiological salt solution by rectum, one and one-half pints every two to four hours for twenty-four to forty-eight hours. (5) Antistreptococcic serum in suitable cases in hope to combat the effects of toxins absorbed.

Aciduria as a Cause of Death Following Chloroform and Ether Anesthesia.—LEONARD G. GUTHRIE contends that the administration of ether, as well as chloroform is dangerous (*Lancet*, Aug. 26, 1905) under certain conditions not yet fully determined. The symptoms suggest acid intoxication by the poisonous precursors of acetone, the origin of which is in the disintegration of fat. In practically all cases of death by anesthetics advanced fatty metamorphosis is found in most organs, and particularly in the liver. Although prolonged administration of chloroform certainly produces fatty change, it is incredible that such profound alterations could be induced by the small amount given during short operations. Ether is not capable of initiating similar changes, yet they are found apparently to the same extent in deaths resulting from its use. Therefore it follows that such fatty metamorphosis must have existed prior to the anesthetization. The disintegration of fat into acid poisons may be due to the direct action of chloroform and ether in altering normal metabolism, or in favoring the action of intestinal toxins in the disintegration of fat. In any case the pre-existence of advanced fatty change must be assumed. Probably the fatty changes are physiological and of the nature of infiltration rather than of degeneration, and if this be true it is possible to understand why anesthetics should be dangerous at one time and not at another. In accordance therewith he concludes that before operation upon children careful inquiry should be made as to the history of so-called bilious attacks, which in reality may be those of acidosis, and that in all cases where overfattening and want of exercise is suspected the operation, when possible, should be delayed until a fat-free diet can be given for some days. Since both starvation and fright give rise to acetoneuria, the four-hour fast imposed upon children is considered too long. Nutrient enemata should be given two hours before and immediately after operation. The treatment of acid intoxication following operations should be by venesection, saline transfusion and by enemata of solution of bicarbonate of sodium.

The Matas Operation for the Cure of Aneurism.—JOHN H. GIBSON (*Am. Med.*, Aug. 19, 1905) states the operation briefly consists first in controlling the flow of blood in the diseased vessel by compression; the free incision of the sac from end to end; the evacuation of its contents; the closure by suture of the arterial openings in it; and then the obliteration of the sac by plication and infolding of the skin. In the case of a sacciform aneurism but one opening requires closure, and when this is done the caliber of the vessel is re-established. In the fusiform aneurism there are two courses open to the operator—one the closure of the two courses of the artery into the sac, and of any collaterals which might originate within the sac, and then the entire obliteration of the sac by continuous rows of sutures; or, he may follow the suggestion of Matas of reconstructing the arterial caliber by utilizing a portion of the aneurismal sac and suturing it over a catheter which

is withdrawn before the last sutures are tied. Even when it is impossible to re-establish the vessel itself, this procedure of Matas possesses great advantages. The aneurismal sac is as completely done away with as if it were extirpated, and there is less interference with collateral circulation than by any of the various methods of ligation. The operation of Matas is applicable to all aneurisms in which there is a distinct sac, and in which the cardiac end of the main vessel can be thoroughly controlled. The case reported is that of a negro, aged thirty-one years, who suffered from a large popliteal aneurism. The sac was laid freely open and the arterial openings sutured. The sac was then obliterated by repeated rows of plicating sutures. The wound was closed without drainage. Suppuration took place, but the patient made a complete recovery after superficial drainage was established. Some months after the operation there was no evidence of a recurrence. Suppuration has occurred in a number of cases reported, but does not in any way seem to interfere with the cure. Dr. Gibbon says that in another case he would introduce a superficial drain.

Malposition of the Appendix.—JOSEPH A. BLAKE reports cases operated for supposed appendicitis (*Ann. of Surg.*, Sept., 1905) in which the symptoms were entirely relieved, though no inflammatory condition existed. In these patients usually the appendicitis and cecum is either drawn up under the ileocolic junction by a short meso-appendix or is in a retrocecal position, causing the end of the cecum to be rolled up under itself. In two of the cases there existed well-marked enteroptosis, and in two the right kidney was distinctly movable. In most cases traction was exerted on the cecum through the appendix by a short meso-appendix. An explanation of this anatomical condition is found in the development of this part of the alimentary tract. During late intrauterine life the cecum descends from a position immediately below the liver, which is due chiefly to an increase in length of the descending colon, its vessels increasing proportionately. A disparity of growth occurs in these cases, and a folding of the gut results at the junction of the cecum with the appendix. As these vessels normally pass behind the ileocolic junction the appendix is held up behind that point, and through it the end of the cecum, and in many instances a sharp kink occurs at the point of entrance of the main vessels. It appears that in some cases a constriction of the ileum might readily occur from an overdistended cecum. Thus it would seem that the symptoms complained of could be caused by the tugging on the appendix produced by an overdistended or overloaded cecum; by a partial obstruction produced either in the ileum or the colon by their bending over a fixed appendix; or possibly by interference with the circulation of the cecum and ascending colon. Analysis of the symptoms shows evidence rather of functional disturbance than of an inflammatory condition. This relation may also explain the appendical pain observed in some cases of movable kidney in which appendectomy gives relief. In enteroptosis a short meso-appendix may readily cause tugging upon the appendix and cecum. Finally, the constant tug on the appendix and cecum is undoubtedly a cause of true appendicitis.

Hot Salt Solution for Ulcers.—Dr. A. VEYRASSAT (*Revue Médicale de la Suisse, Romande*, June, 1905) writes on the use of hot physiological salt solution for the treatment of ulcers of the leg, which he ex-

tols over all antiseptics. These, if strong enough to be bactericidal, must necessarily cause death of tissues already lowered in vitality. The salt solution (7 in 1,000) used at a temperature of 50° C. has a physiological effect on the tissues promoting phagocytosis, and at the temperature employed is fatal to some bacteria, though not to spores. The ulcer is irrigated with the best solution for a quarter of an hour, and a sterilized dressing (gauze, cotton wool and a bandage) is then applied. This is done daily until the ulcer cleans, then as often as necessary. Healing proceeds rapidly, and the method is especially suitable for cases which cannot afford time to lie in bed.

Dry Iodine Catgut.—Since much criticism has been expressed as to the availability of Claudius catgut for surgical use, ALEXIS V. MOSCHCOWITZ, having slightly modified the method of preparation, publishes (*Ann. of Surg.*, Sept., 1905) a report of experiments conducted to show its comparative value. Points to be considered in an ideal catgut are, (1) it should be absolutely sterile; (2) it should lose no tensile strength in preparation; (3) it should be readily and simply prepared; and (4) it should be absorbed completely, but only after serving the purpose intended. Three classes of experiments were conducted, (a) to prove the sterility of the catgut in question; (b) to show the effect of the catgut on growing cultures, and (c) to determine the effect of infected catgut. Cultures made from this gut proved negative; placed upon inoculated media it exercised a strong inhibitory action; and, after being soaked in cultures of bacteria for twenty-four hours it produced no growth when added to nutrient media. These conclusions were deduced from an exhaustive series of experiments. In order to compare the tensile strength of dry iodine catgut with Von Bergmann catgut and raw catgut a special form of apparatus was constructed. Experiments showed that catgut, size number 0, in these three forms possessed an average tensile strength of 3,665, 3,180 and 3,081 grams, respectively; size number 1, 5,446, 4,592 and 4,961 grams, respectively; and size number 2, 7,320, 7,132 and 6,526, respectively. When knotted the tensile strength average 2,220, 2,244 and 1,984 grams, respectively for size number 0; 3,557, 3,446 and 2,996 grams, respectively, for size number 1; and 4,678, 5,217 and 3,800 grams, respectively, for size number 2. The preparation of the gut has been slightly changed, since it was found that prolonged immersion in the iodine solutions caused a deterioration in tensile strength. The method now in use is to soak the raw unwashed gut in potassium iodide one part, iodine one part, and water one hundred parts for eight days, then to preserve it dry in sterile vessels until used. In regard to absorption, it may be said in general that iodine catgut does not differ materially from catgut prepared by other methods. The conclusions drawn are, (1) iodine catgut is absolutely sterile; (2) it is impossible to infect it by ordinary means; (3) its content of iodine is not sufficient to act as an irritant upon the tissues; (4) its tensile strength is superior to raw catgut and to that prepared by the sublimate-alcohol method; (5) it is easily and cheaply prepared; and (6) it is absorbed only after it has served the purposes for which it was intended.

Radical Treatment of Cancer of Rectum.—In presenting a study of 46 cases of cancer of the rectum which came to operation, JOHN A. HARTWELL (*Ann. of Surg.*, Sept., 1905) discusses means for lowering

the mortality. The operation itself is a dangerous one, but the chief points concerned in the high mortality are late diagnosis and operations and sepsis. The former can be materially obviated by careful digital and instrumental examinations in all patients suffering from lower bowel trouble. Sepsis, as a cause of death, is placed at from 50 to 70 per cent. This sufficiently shows that the elimination of sepsis is a most important factor. The writer considers that the best way to accomplish this is by a complete deflection of the fecal current; that is, by the formation of a complete inguinal colostomy three weeks previous to the rectal operation. Much may be gained by putting the bowels in good condition and cleansing the rectum of its purulent discharge by a week's or more treatment, but, at best, these only do away with a certain amount of infection during the operation itself. A frequent objection advanced is that a preliminary colostomy interferes with a sufficient drawing down of the gut for radical removal later. This objection carries no weight if the colostomy is done in such a way as to avoid it. Moreover, if indicated, the distal end of the artificial anus may be used for additional cleansing of the bowel prior to rectal resection, and, again, valuable information as to the extent of secondary involvement may be obtained by exploration through the wound. Finally, this procedure is usually followed by such a marked general improvement of the patient during convalescence that it more than compensates for the loss of time. An equally important means of combating sepsis is the exercising of the greatest care in avoiding contamination of the wound from the gut during operation. In regard to the operation itself, there should be removed along with the growth all the glands and tissue which is liable to later cancer infection to obtain the best results.

Congenital Dislocation of the Hip.—P. W. WILLIS (*Journal A. M. A.*, August 26), first notes the objections to the Lorenz manipulative method of treating this condition, and then describes his own operative technic and results, following practically the lines laid down by Royal Whitman and Jackson Clarke. It consists in stretching the muscles on the internal, anterior and posterior aspects of the joint until sufficient relaxation for reduction is produced. This is usually accomplished when the trochanter can be drawn down to Nélaton's line. Reduction is attempted by forced abduction of the thigh, which is at the same time completely flexed on the abdomen and rotated inward. After reduction the anterior fibers of the capsule are stretched and the plaster cast applied. Only in a very easy case, however, would the operation be completed at one time, and the usual plan is to use a moderate amount of manipulation and to make a few gentle attempts at reduction, and then to put the hip in a cast in the position of abduction. After two or three weeks the cast is removed and another attempt at reduction is made. The abductors will now be found well relaxed, and the manipulations mainly required on the posterior and anterior muscles. The same method is repeated again, and if after three or four such attempts reduction fails, it is undoubtedly wise to resort to the open incision. When reduction has been secured, the cast is changed about once in two months, or oftener if much soiled or broken, a radiograph is taken, and the hip is gently moved in different ways, avoiding abduction. On account of the risk of relapse, treatment in the cast is con-

tinued for at least a year after final reduction, even in favorable cases. Three cases of children are reported with five hips reduced, one of them by the open method, with three perfect anatomic results. The permanent functional results will only be known after months or years. This method of repeated gentle manipulations has the merit of little danger, and the patient is better prepared for the open method if that is found necessary.

Contusion of the Knee-Joint.—In reporting four cases of contusion and laceration of the mucous and alar ligaments and synovial fringes of the knee-joint openly operated with good functional result, CARLETON P. FLINT (*Ann. of Surg.*, Sept., 1905) expresses the opinion that every traumatic knee showing localized tenderness with effusion into the joint should be aspirated, provided there is not a marked diminution in the amount of effusion under treatment at the end of one week. Should the condition be a hemarthrosis, it is better to make a small incision and wash the joint clean, since clots and thick fluid do not run out well through a trocar. Fluid, if allowed to stay in the joint too long, does harm. First, the capsule and ligaments become chronically distended and lax, and secondly, the contained fibrin becomes deposited on the wall of the joint, or floats free, becomes covered with epithelium, and so gives rise to foreign bodies in the joint. Should fluid reaccumulate it must be drawn off again. There would be no reason for interference if injured synovial membranes always repaired spontaneously and was not etiologically connected with "chronic knees," but such is unfortunately not the case. The crushed, torn and infiltrated alar and mucous ligaments act as foreign bodies, being perpetually injured, giving rise to pain and repeated attacks of effusion, resulting in such secondary changes as chronic effusion, relaxed ligaments, increased lateral motion, intermittent pain, and changes in cartilage and synovial membrane. For these reasons it is concluded that if, on walking about, fluid reaccumulates and tenderness and pain reappear at intervals after four or six weeks of conservative treatment, open operation should be advised.

A New Interdental Splint.—The requisites of an interdental splint for fracture of the inferior maxilla are that it should absolutely immobilize the fragments, allow of free cleansing, be easily and readily made, be worn with comfort and capable of quick removal. RAYMOND RUSS describes a splint (*Ann. of Surg.*, Aug., 1905), which he claims meets these points. The splint is made of spring brass $\frac{3}{64}$ of an inch in thickness. Each clamp consists of two parts, a chin-piece and a piece bent at right angles, making a long and short arm. The chin-piece is wider at one end to prevent its slipping when incorporated into the plaster-of-Paris dressing. It is 8 cm. long, and provided with a number of holes so that the plaster may sink into them, thus making the dressing more secure. The right-angled piece is 1 cm. wide, the arms measuring 7.5 cm. and 5 cm., respectively. The end of the short arm is provided with a simple lock, which fits into a corresponding lock in the chin-piece. Three or four holes should be bored into the long arm. When these two parts are locked, they form a clamp easily adjusted. The adjustment is accomplished by means of a round head brass machine-screw 6 cm. in length and carrying a winged nut. This fits into the holes of the long arm and chin-piece at 1.5 cm. distance

from the short arm. The clamp should be nickel-plated. The fracture having been reduced, plaster-of-Paris is folded over the chin and under the jaw, extending as far back as the rami. Then the clamp is applied and the chin-piece pressed into the plaster. When dry the clamp is removed, the under surface of the long arms covered with dental compound and quickly applied and pressed firmly into position so that the splint rests upon an even bed, the dental compound filling the holes which have been bored in the long arm. The short arms are locked to the chin-piece and the screws are then tightened to the necessary degree.

The Late Poisonous Effects of Anesthetics.—A. D. BEVAN and H. B. FAVILL (*Journal A. M. A.*, September 2) report the case of a girl, aged twelve and a half years, from whom a gangrenous ovarian tumor with twisted pedicle was removed. The operation was done under chloroform and took a long time and an unusually large amount of the anesthetic. The patient did well until forty-four hours after the operation, when there appeared an acute toxic delirium with rapid pulse, tonic muscular contractions, moderately high temperature, and later, increased temperature, Cheyne-Stokes breathing, irregular heart action and death 110 hours after the operation. The autopsy, by Dr. Hektoen, seven hours after death, showed advanced fatty change in the liver, at the periphery of the lobules, and congestion, etc., of kidneys, spleen and lungs. The authors give an extended review of the literature of similar cases, and conclude that anesthetics, especially chloroform (ether to a very limited degree), can produce a destructive effect on the liver and kidney cells, and on the muscle cells of the heart and other muscles, causing fatty degeneration and necrosis, very like that occurring in phosphorus poisoning. The most constant and important injury is that to the liver, and is in direct proportion to the amount of anesthetic used and the length of the anesthesia. Some individuals appear to be specially susceptible to these effects, and certain conditions, such as age—the younger the patient the greater the danger—those lowering the general vitality, various intoxications, exhaustion, lesions involving fatty degenerations and chronic affections of the liver and kidneys are also probable predisposing causes. As a result of the liver lesions, toxins are produced either from the liver cells themselves or as a result of their failure in their normal eliminative functions, and these may produce a definite symptom-complex, consisting of vomiting, restlessness, delirium, convulsions, coma, Cheyne-Stokes respiration, cyanosis, icterus in varying degree, and usually terminating in death. It is probable that milder degrees of this poisoning are observed as transient after-effects of chloroform. The condition is a hepatic toxemia, and in the opinion of the authors, as definite a pathologic entity as a pancreatitis with fat necrosis. Acetone, diacetic acid and beta-oxybutyric acid are by-products, but not essential poisons in this toxemia. The liver lesion is the one responsible for the symptoms and the fatal result. In the fatal cases, death is almost invariably due to chloroform; ether is seldom the cause of death of this kind. Hence, chloroform should never be used with conditions such as have been mentioned as favoring this toxemia, nor for very prolonged operations. The importance of limiting the duration of the anesthesia, when chloroform is employed, is especially emphasized by the authors.

Mechanics of Dorsal Pott's Disease.—In a paper discussing the universal ineffectiveness of most forms of apparatus employed in the treatment of dorsal Pott's disease, JOHN C. SCHAFFS (*Med. Rec.*, Sept. 9, 1905) describes an appliance which secures fixation and allows no compensatory deformity. This apparatus is used in combination with the Taylor back brace, with long cross pieces and U-shaped hip band. Commencing at the lower end, the front brace presents a flat steel band, which crosses the abdomen as low as possible without being displaced by the thighs when the patient sits, and extends around the sides of the pelvis and downward for two or three inches to a level with the horns of the posterior hip-band, with which it is connected by straps. The pelvis is thus clamped between the bands. The anterior superior spines are protected by pads of kersey and leather, and the middle portion of the front band is arched forward so that when the patient is supine there is a space behind it of an inch and a half or more. At the location of the anterior superior spines flat uprights are riveted at right angles, or, if the abdomen is very protuberant, the uprights are directed slightly outward. They reach nearly to the top of the chest, and at the level of the axilla are crossed by a flat band extending around the sides of the chest and nearly meeting the cross piece of the posterior brace. Holes half an inch apart in the uprights will facilitate the placing of this chest band. A perforated stiff leather shield, attached by rivets, secures the chest band to the uprights, and is supported at the top and bottom by adjustable straps between them. Near the lower end of the uprights are padded web straps passing over the iliac crests to buckles upon the uprights of the back brace. When vertical support is desired, these straps are attached to the front and back pelvic bands. The ends of the chest bands may be padded like crutches, or padded shoulder straps from the top of the back brace may pass through the axilla to a second cross-piece behind. For women, the uprights pass directly up the sides to the axilla and are connected at the top by a piece of sheet steel. The descriptions is elucidated by means of drawings.

Removal of a Pin from the Lower Lobe of the Lung.—R. HAMILTON RUSSELL and WILLIAM R. FOX (*Lancet*, Sept. 9, 1905) report this unusual case. The patient, aged twelve years, inspired a large shawl pin. No symptoms appeared until a week later, when cough supervened, and a week later blood-tinged sputa observed. A skiagraph revealed the pin in the left bronchus. An attempt to remove it by an electro-magnet proved unsuccessful. A second skiagraph showed that the pin had worked down into the lower lobe of the left lung. The following operation was then performed: A free curved incision, convexity downward, was made, and a portion of the left eighth rib six inches long was resected. The pleura was cautiously opened and the lung allowed to collapse. The fingers of the left hand were passed between the lung and the diaphragm, the lower lobe grasped near its root and gently drawn toward the opening. It was now possible to recognize the rigidity caused by the presence of the pin. Maintaining a firm hold with the left hand the position of the head was ascertained by gently palpating the surface of the lung with the right hand. A small incision was made in the lung over the pin's head; a sinus forceps, unopened, was pushed in until the pin was felt, and, grasping it below the head, the

pin was easily removed. No hemorrhage ensued, but it is notable that abscess formation had already begun around the foreign body. No suture was placed in the lung. The flap of integument was replaced and sutured with the exception of about two inches in the middle. Over this an oiled silk flap was placed; by this means free escape of air from the pleura was insured, and by its valvular action the passage of air back into the pleura impeded, thus encouraging expansion of the lung. Immediately after the operation there was some restlessness, and for two or three days dyspnea and general distress, which, however, steadily diminished. There was moderate fever, and examination of the chest revealed general consolidation of the lower lobe. By the fourth day convalescence fairly set in. The boy was discharged entirely cured on the twelfth day.

MEDICINE.

Medicine in the Philippines.—J. R. McDILL (*Journal A. M. A.*, August 19, 1905) describes the condition of medical affairs in the Philippines. He does not believe that the climate is necessarily fatal or unduly enervating to Americans, especially as the Benquet Sanitarium will soon be available. He describes the work of the Board of Health and the laboratory facilities which it affords, and speaks especially of the need of general and special hospitals. The history of the medical organizations since the American occupation and the status of medical education in the islands are also noted. It appears that as yet there has been no marked affiliation between the native and American physicians, and McDill thinks this will hardly occur till a new generation, educated in English and in modern methods, has arisen. At present, the ratio of physicians to population outside the city of Manila is 1 to 51,786 or one physician to each 430 square miles, and to supply the medical and sanitary needs of the country 2,000 or 3,000 native physicians and sanitarians should be educated there during the next twenty years. There is a unique opportunity for the establishment of the ideal university and affiliated professional schools in the Philippines, and there will be no lack of earnest capable students. The medical profession is waiting for some one to contribute for the establishment of a Philippine university and medical school.

Distribution of the Eruption of Smallpox.—From a study of the limitation of the eruption of smallpox to the skin, mouth, lower part of the rectum and vagina W. E. Korrz (*Med. Mag.*, September, 1905) concludes that the skin alone affords a suitable nidus for the growth of the vaccinia and variola virus, chiefly because in this tissue the leucocytes are kept at a distance from the developing germ, that the virus of smallpox does not grow and multiply in the blood stream, either *in vivo* or *in vitro*, though the blood acts as the distributing agent for the germs. If the instance where variola was conveyed to a second individual during the incubation period by means of a skin graft is reliable, it would appear as though the germs reaching the circulation by way of the respiratory tract are deposited shortly after their inhalation in the skin, there to undergo development, possibly as an intracellular parasite or sporozoon, as described by Councilman and Magrath. This view is further supported by the observation that given exposure to variola infection such individuals who have had a short exposure will develop milder attacks of the disease than those exposed for a longer time to the same source of the in-

fection. This theory also affords a rational explanation of the distribution of the eruption cited in some cases, for owing to the warmth of certain articles of clothing, as a jersey in a case mentioned, the capillary circulation would be slightly different in that part of the skin covered by the shirt to that of the rest of the cutaneous circulation. It also serves to explain in a measure the periods of incubation and eruption, for if the observations of the American observers be correct the incubation period is occupied in the cytoplasmic and intranuclear stages of the evolution of their sporozoon, the *Cytorrhyses variola*, while the period of eruption is occupied by a further stage in the evolution of the parasite, the extracellular or ameboid stage, as previously described by the author.

Individual Treatment of Diabetes.—HENRY S. STARK claims that the omission to individualize cases of diabetes mellitus (*Med. Rec.*, September 23, 1905) has manifested itself in a lack of specific medication, and in a failure to lessen its occurrence. The old classification into mild, moderate and severe types, based upon the amount and constancy of sugar in the urine, is too arbitrary to be of service. Likewise the classification, based upon the presumed seat of the lesion, is objectionable. The proper treatment of the patient must be governed by the individual. To obtain results certain items must be considered, namely, (1) the power of carbohydrate assimilation; (2) the general physical condition; (3) the mental attitude; (4) the ability to maintain weight; (5) the digestive sufficiency; (6) the ability to maintain a nitrogenous equilibrium; (7) the age, physique, occupation and mode of life; (8) complications, and (9) the preferences for foods and beverages. Inasmuch as the pathogenesis of the disease is still in question, efforts must be directed against symptoms alone. Many drugs have been advocated as specifics, only to prove worthless. Among such are arsenic, aspirin, salicylate of soda, permanganate of potassium, the coal-tar preparations, sulphate of sodium, iodide of potassium, bichloride of mercury, jambul and yeast. Opium is the favorite drug of to-day, but its curative influence has been grossly exaggerated. That it has some claim to merit cannot be gainsaid, but unless a prompt improvement follows its administration, it should be discontinued. Though it may diminish the secretion of urine, it diminishes coincidentally all the secretion, giving rise to a general depreciation of the physiological functions. The treatment is divided into prophylactic, symptomatic and dietetic. The prophylactic treatment consists chiefly in the recognition of the diabetic predisposition and an early diagnosis. When first discovered, a complete change of surroundings is desirable. Symptomatically prominent are hunger and thirst. Thirst is excited by the excess of sugar in the blood, whereas hunger is caused by the excretion of food before its function has been performed. These cravings must not be indulged. Thirst is to be combated by giving ice, small drinks, effervescing or acidulated, at stated intervals, and by total exclusion of carbohydrates for a period of ten days, in conjunction with increasing doses of codeine. To relieve the hunger asafetida pills of one grain have been suggested. The emaciation and weakness is treated best by forced feeding with fats and oils, even at the expense of neglecting the glycosuria. The best agent is cod-liver oil. For the neuritis opium alone gives little relief, but when combined with hyoscyamus better results are at-

tained. There are no specifics to ameliorate glycosuria and polyuria. Opium is the drug most resorted to. The skin affections, the more important of which are dermatitis and eczema, require soothing lotions. The treatment of coma is based upon the presumption that it is due to an acidosis. The validity of this is not yet proven; therefore it is not justifiable to deduce from an unaccepted theory a rational principle of treatment. Symptoms of the precomatose stage are met by rest, milk diet and protection against cold, fatigue and nervous and gastric disturbances. Heroic alkali therapy is employed, whisky or brandy is useful, and a hypodermic injection of natrobenzoate of caffeine or of camphor in ether should be given at once. All opium should be discontinued. Free catharsis is essential, and oxygen may be freely given for dyspnea. The treatment of the comatose stage is almost hopeless. Measures advised are blood-letting, intravenous injection of alkaline fluids, cardiac tonics hypodermatically complete evacuation of the bowels, colon irrigation and oxygen inhalations. Opinion is a unit in declaring that dietetics is the keynote to the intelligent treatment of diabetes. No longer is it a matter of dietetic restriction, but one of dietetic regulation. Control of carbohydrates is sought rather than total abstinence. Proteids, fats and starches each have a physiological purpose; therefore a pathological reaction must follow when the economy is deprived of any of these principles. The rigid exclusion of sugars and starches is a thing of the past; on the contrary, carbohydrates are often substituted for fats in cases of marked acetonuria. The first aim should be to ascertain approximately the daily excretion of abnormal urinary ingredients, the acetone bodies in particular, also the amount of urea. Next, determine the patient's tolerance for carbohydrates. This brings to light two possibilities. Either the subject has no tolerance for sugar or a mild tolerance. It is now possible to arrive at a rational dietary for the patient. Cases belonging to the first group can be much benefited by a carefully selected diet. Cases belonging to the second group are scarcely amenable to dietetic treatment. Here the question depends upon the physical condition of the patient. The chief aim should be to prevent systemic intoxication and to keep up the general health.

PHYSIOLOGY.

The Structure and Function of Nerve Fibers.—The fineness of texture of the minute fibers that make up the nerve trunk, and the utter absence of any evidence of chemical change in the nerve during its activity, have baffled all serious attempts to explain the nature of the nerve impulse. The latest effort in this direction is made by J. S. MACDONALD (*Proc. Royal Soc.*, Aug. 3, 1905), who, on the basis of recent investigations on the distribution of certain inorganic substances in the nerve trunk, constructs a very ingenious theory to explain the mystery of the nerve message. This theory is very much akin to that advanced several years ago by A. P. Matthews, who maintained that the nerve impulse consists in the negative ionization of the successive parts of the nerve, with an associated transformation of hyrosols into hydrogels. The theory advanced by Macdonald is based on recent studies on the distribution of potassium in the nerve fiber, made by the author and also recently by MacCallum, of Canada. The latter found that the axis

cylinder does not contain any potassium, which is found in both the primitive and medullary sheaths, and also is largely deposited at the nodes of Ranvier. The detection of the potassium depends upon its precipitation by means of hexantrite of cobalt in the presence of sodium. Macdonald places a different interpretation on these findings. The fact is that the potassium is precipitated out at places which have become injured or which are the seat of excitation. Thus, wherever the nerve fiber is divided there will potassium be precipitated by the reagent. This shows that the axis cylinder is not devoid of potassium, although in conditions of rest it is not precipitated. With these facts as a starting point the author constructs his ingenious theory. The nerve fiber is pre-eminently a conducting cord, of which the axis cylinder is the essential part. In spite of the greatest amount of work in this respect no chemical change can be detected in the fiber. Evidently the transmission of the nerve-impulse is purely a physical process. The transmission of the impulse is associated with a precipitation or condensation of the potassium ions in each successive stretch of the nerve. In the words of the author, "This phenomenon represents a modified form of the process of excitation and its consequences upon the neighboring segments of the fiber; a reversible change during which electrolytes are set free into a state of simple solution, and are then recovered from this state back into their original condition. Here truly there is the appearance and the withdrawal of a source of energy, a relay placed at every point of the nerve to ensure the continuous propagation of the nervous state. Inorganic salts are set free to move; they move ever so little; the next segment of the fiber is charged as a consequence (let us say negatively); the colloidal state of the fiber is thus changed from its condition of equilibrium; as a result a setting free of electrolytes at this new point and the propagation of the process; in the meantime the communication of the negative charge to the onward segment has left the original segment positively charged, the state of colloidal equilibrium is thereby reproduced, and the last involved segment is brought to a condition of rest."

Blood Vessels During Shock.—Contrary to the view generally assumed, JOHN D. MALCOLM (*Lancet*, Aug. 25, 1905) believes that during shock the condition of the blood vessels is one of contraction instead of relaxation. He claims that the numerous experiments brought forward to prove the older theory lend support to this view. It has been assumed by other investigators that a fall of blood-pressure necessarily indicates that there is a relaxation of arterial tension. This view, however, is open to question. All observers are agreed that a contraction of the small arteries and a rise of arterial blood-pressure in the main vessels are constant effects of moderate stimulation of sensory nerves. It does not follow, however, that a fall of blood-pressure in any particular vessel must necessarily be due to a relaxed condition of the arteries. The amount of force exerted by the muscular wall of the artery has no relation to the intravascular pressure, such as it would have if the distribution of the blood was unalterable. Contraction of an artery can raise the intravascular pressure directly only if it meets with resistance. Increased resistance to the blood flow in a vessel and increased pressure of blood within the same vessel do not occur together, but in an inverse ratio to each other, and therefore the contraction of an artery

increases the resistance to the blood flow within it, but diminishes the blood-pressure within it. It might be thought that the fall of the blood-pressure in the carotid artery when a state of extreme shock is approaching could not be produced by the process indicated unless a decrease of cardiac power was brought about at the same time as the contraction of the vessels. The evidence of a decrease of cardiac power is wanting. On the contrary, the heart seems to be stimulated to greater exertion, and if it cannot keep up the pressure sudden death from heart failure may take place. A fall of blood pressure in the carotid may be explained on the assumption that there is an intense general contraction of the systemic arteries and that the cardiac force is fully maintained. During the state of shock there is an increased flow of blood to the internal and warmer parts, and if the patient dies the circulation continues efficient in the central longer than in the superficial vascular areas. It is possible that the portal system and the central areas generally relax at the same time that the superficial vessels contract, but there does not seem to be any evidence that the arterioles relax anywhere in the condition of shock. The belief that the phenomenon of shock is due to a contraction of the arteries was arrived at by noting that evidence of anything like a dilatation of the vessels generally or in exposed parts of the splanchnic area alone is usually wanting during life, even in conditions of the most severe shock produced by abdominal operations. Moreover it is also noted that a state of profound shock checks hemorrhage of small intra-abdominal vessels just as it interferes with the bleeding of superficial wounds. In both cases the arrest of hemorrhage favors the view that the vessels are contracted and not dilated. On the other hand, larger vessels in the center of the body bleed very freely when divided as if the pressure within them was great in proportion to their size. However, a comparison of the states of the radial artery, the carotid artery and the heart lends the most conclusive evidence to this view. In cases of unmistakable shock the heart action is persistently slow and forcible, though it may have ceased to produce an impulse in the radial artery. This condition seems to indicate an increased opposition to the flow of blood produced by an intense contraction of the arteries, those as large as the radial being reduced to a very small size. If the patient dies the heart action is always hastened toward the end, but it is, as a rule, the overworked heart that hurries. Another symptom of importance as evidence of the condition of the vessels is that partial anuria always occurs in shock and complete anuria is not uncommon. A better explanation of this than that afforded by lowered arterial tension is that the condition is due to contraction of the arteries and to consequent lowering of the blood pressure in the glomeruli, accompanied by the rise of blood pressure in the central vessels. The blood in a condition of shock has a higher specific gravity, explained by the fact that the more fluid elements are expressed into the lymphatic system. The treatment of the condition must be directed to preventing the ill effects of local irritation, to relaxing the vessels as soon as possible, and to keeping up the blood pressure in the superficial vessels until such time as a psychological relaxation takes place. With a view to preventing shock and also to relaxing the vessels when shock occurs warmth is of the first importance. Nitroglycerin, alcohol and ether tend to dilate the vessels and are therefore useful. Friction of the surface and the application of rubefacients are of great value. In order to keep up the pressure in the vessels the avoidance of hemorrhage by every possible means is essential. The

injection of saline fluids may afford much assistance, but the effect is temporary and of no use, except to gain time for the physiological relaxation to occur. Pressure on the abdomen, bandaging the limbs, bracing up the internal vessels by adrenalin, hemisine, ergot, strychnine, all tend to force the blood to the superficial areas, and therefore are beneficial for a time, and they also may prolong life until the arterioles are induced to relax; but these measures must increase the work of the heart to an enormous extent and therefore may directly contribute to the production of death from heart failure.

The Function of the Hypophysis.—Many and varied have been the opinions as to the use of this small organ, according to G. GUERRINI (*Archives Ital. de Biol.*, May 10, 1905). These opinions hold that the hypophysis is a useless, atrophied structure; that it has an important relation to the blood and circulation; that it is concerned with the general nutrition of the body, more particularly that of the nervous system; that it takes an important part in the biochemical processes; and many opinions have been advanced as to the mutual relationship of the hypophysis and akromegaly. The author pursued a new method in investigating this organ; he studied the normal type of its cells, and the histological changes that occur during its functional activity, and also noted the effects of various stimuli. The results of these histological studies are as follows: In the hypophysis there is only one type of cell. The so-called chromatophilic and chromaphobic cells represent different stages of activity of the same thing. The colloid substance is a product of secretion and not of degeneration. The cells elaborate two types of secretion, one granular and the other consisting of plasmosomes. The latter have a tendency to aggregate in a homogeneous mass, constituting the colloid substance. In gravid females there is a slight increase of secretory phenomena, from the very beginning until the end of pregnancy, or a little after. In healthy nursing animals there is no change in hypophyseal secretion. In newborn animals the activity of the gland is relatively less than in adults. In adult animals in which marked variations in the material exchanges are made to occur, no effect on the secretory activity of the hypophysis is observed. During the first third of a period of fasting, lasting until death, there is a light augmentation of secretion. In adversely affecting the development of the animal, no change in the secretion of the hypophysis is brought about. Injections of a fresh extract of the hypophysis or of its nucleoproteid, or of extracts of the thyroid, or of solutions of thyroïdin, stimulate the secretory activity of the hypophysis. Injection of pilocarpine causes a marked increase of the secretion, which becomes more watery. Another series of experiments dealt with the possible manner in which the hypophysis reacts to an intoxication of the organism, as with diphtheria toxin. An acute intoxication causes at first an increase and then a diminution of the secretory phenomena; a chronic intoxication causes a persistent and progressive increase in the secretion. The injection of the serum of animals that have been intoxicated causes an abundant increase of secretion. The general conclusions are: The hypophysis is not a rudimentary organ. It elaborates a secretion of two types. The secretion has no effect upon the trophism of the body. It has a generic antitoxic action.

The Clinical Significance of the Sensation of Vibrations.—In an investigation of the vibratory sensation, W. STERLING (*Deut. Ztsch. f. Nervenheilk.*, July 19, 1905) does not agree with the opinion of Rydel and Seiffer that in *tabes dorsalis* this sensation is affected

before the other sensations. He finds, however, that in diseases resulting from compression of the cord, the sensation of vibration is affected before all the others, and the degree of disturbance in the former exceeds that in the latter. This result must be confirmed by more extensive clinical observations before it can be of any diagnostic value.

Chemical Reflexes of the Alimentary Tract.—E. H. STARLING, pursuing this subject further (*Lancet*, Aug. 19, 1905), says it is not until the food arrives at the stomach that any use is made by the organism of the more primitive chemical methods of adjusting the secretion of the digestive juices to the presence of food at various sections of the canal. A secretin in the mouth has not been found, and this part of the tract is so closely associated with volition that its complete subordination to the central nervous system is to be expected. In the stomach, however, research has pointed to the possibility of some chemical mechanism being involved in the secretion of gastric juice. The primary gastric secretion is known to be of nervous origin, but after food has remained in the stomach for about three hours there is a second rise in secretion, and Pawlow has shown that this occurs when all nervous supply has been cut off. From observations it seems that absorption in the stomach takes place only at the pyloric end, and if a secretin exists it would naturally be expected that it would be formed in the pyloric cells under the influence of the food or acid passing from the fundus. Eddins experimented along such lines and obtained a substance which, when injected into dogs, caused secretion of gastric juice. This body evidently belongs to the same class as pancreatic secretin. As has been shown, pancreatic secretin, formed by acid chyme passing over the mucous membrane of the duodenum, stimulates the flow of pancreatic juice. The ferments of this juice are dependent for their full digestive activity upon other juices poured into the intestine at the same time; namely, bile and succus entericus. The fat-splitting and starch-splitting ferments occur preformed, but the activity of both of these is doubled or trebled if bile is present. It is essential, then, that bile be secreted at the same time as and in proportion to the flow of pancreatic juice. This has been shown to occur when secretion is injected intravenously. The proteolytic ferment, trypsin, does not occur preformed, but as a proferment, trypsinogen. In the presence of succus entericus, however, the pancreatic juice develops a proteolytic power more marked than any other known. This is due to the presence of a body which acts upon trypsinogen as a ferment—enterokinase. Lower down in the gut a secretion of alkaline juice is still of importance, in consequence of its content in sodium carbonate for neutralizing organic acids, erepsin for breaking down proteid, and the starch ferments invertase, maltase and lactase. It is seen then that from the entry of food into the stomach until its passage through the ileo-cecal valve there is a continuous chain of chemical reflexes which successively call forth to activity the digestive apparatus in the immediately following section.

PATHOLOGY AND BACTERIOLOGY.

The Production and Inhibition of Glycosuria by Means of Saline Injections.—Of eminent importance from the viewpoint of the pathology and therapeutics of diabetes are the experiments performed by M. H. FISCHER (*Pflüger's Archiv*, July 19, 1905).

The injection for 15 minutes of 75-100 c.c. of a $\frac{1}{2}$ molecular NaCl, NaBr, NaI, or NaCO₃ solution into the veins of the rabbit produces a polyuria and a glycosuria, the polyuria being 10 to 15 minutes after the beginning of the injection, and continues as long as the injection is persisted in. The glycosuria begins two hours after the beginning of the injection and lasts for 6 to 8 hours. At first, the quantity of sugar excreted is small, but it rapidly mounts to a maximum, and then descends gradually to zero. At the maximum the percentage of sugar is 40 per cent. After the glycosuria has ceased, the renewal of the injection of the salt solution produces no further excretion of sugar, although the polyuria continues. The fact that the percentage of sugar excreted is small does not give any idea of the extent of the diabetes, for it must be borne in mind that the amount of urine excreted is ten to twenty times as great as the normal. The amount of sugar excreted is really 8 per cent. of the normal amount of urine. The intravenous injection of a less than $\frac{1}{2}$ molecular solution of common salt produces a polyuria, but no excretion or only traces of sugar, and if it produces traces of sugar these appear later than when a $\frac{1}{2}$ molecular salt solution is injected. A still higher concentration than the latter produces an earlier glycosuria, the earliness of which is proportional to the concentration of the salt solution. The glycosuria produced by the injection of the above solution may be diminished or entirely inhibited by the simultaneous injection of CaCl₂ (975 c.c. $\frac{1}{2}$ mol. NaCl + 25 c.c. $\frac{3}{4}$ mol. CaCl₂). The rabbits vary with respect to the ease with which glycosuria may be initiated. There is a certain latent time before the specific effect of the various salts is made manifest. A number of experiments in which it was sought to determine the localization of the action of the concentrated salt solutions, indicated that the point of action is the medulla oblongata. The diabetes, therefore, is the result of the stimulation of the diabetes centers. By injecting the salt solution in the neighborhood of the medulla it is possible to produce the glycosuria by using only a few cubic centimeters of the concentrated solution. This method permits the use of certain salts whose use in the other experiments had to be avoided on account of their toxic action, in large amounts, upon the heart. These salts are LiCl, KCl, SrCl₂. Of no effect is NH₄Cl, and CaCl₂ and MgCl₂ always produce death. The effect of the various salts on the medulla is not an osmotic one, but is of a chemical or physico-chemical nature, for the injection of glycerin, urea or ethylalcohol solutions of the same osmotic concentrations, and in the same amounts as, or larger than, those of the effective salt solutions, produces no glycosuria. The percentage of sugar in the urine does not run proportional to the amount of water, but just the opposite. Both sugar and water vary independently of each other. It is possible to produce a severe glycosuria without any change in the amount of urine excreted. These facts contradict the theories of various authors that the cause of the glycosuria following the injection of saline diuretics is to be sought in the increased urinary secretions. The glycosuria is often accompanied by an albuminuria.

Spirochæta in the Blood.—At last the supposed specific germ of syphilis has been found in the circulating blood, and little doubt now remains that the cause of syphilis has been discovered, say C. T. NEOGGERATH and R. STAHLIN (*Münch. med. Woch.*, Aug. 1, 1905) who collected 1 c.c. of blood from the lobule of the ear, mixed it with ten times the amount of one-third per cent. acetic acid, and

then examined the sediment obtained after centrifuging. In three cases of undoubted secondary syphilis typical *Spirochæta pallida* were present. No similar bodies were seen in the blood of other conditions, but in one case, of advanced phthisis streptococci were found.

Typhoid Bacilli in the Gall-Bladder.—It is a significant fact that many individuals who have come into contact with patients suffering from typhoid fever but are not themselves sick, harbor virulent typhoid germs in their system, and are thus a menace to their surroundings. The great importance of the gall-bladder as a store-house for germs of the typhoid group is pointed out by J. FORSTER (*Münch. med. Woch.*, Aug. 1, 1905). The bile was found altered in all cases of typhoid that came to autopsy and typhoid bacilli were present even where the lower portions of the intestinal tract were free. It is logical to suppose that in many cases of typhoid the bacilli in the feces are really derived from the gall-bladder. When typhoid bacilli were injected directly into the blood of rabbits the germs could be found in the bile after six weeks, at a time when they had already disappeared from the blood and urine. Examination of the upper duodenum was also positive but not of the lower intestines. Even where the bile was sterile cultures could be obtained if pieces of the wall of the gall-bladder were inoculated. The para-typhoid germs behaved in every way similar to the typhoid. The bacilli sometimes persist very long after the disease; thus in one case the gall-bladder was still infected twenty years later. There is very little that can be done since both bile and intestinal contents do not admit of sterilization during life. It is best to make repeated bacteriological stool examinations in suspicious cases, and to operate whenever a catarrh or stone-formation seems probable.

Permeability of the Intestinal Walls.—Many experiments on new-born guinea-pigs have convinced A. UFFENHEIMER (*Münch. med. Woch.*, Aug. 8, 1905) that the intestinal walls are not permeable for bacteria, with the sole exception of tubercle bacilli. Even if small amounts of the latter are added but once to the food a tuberculosis will develop, just like in older animals. The infection generally takes place from the mouth and the vermiform appendix. The bacilli will travel through the walls without causing any loss of continuity, and eventually reach the lymphatic system. On inoculating other animals with the blood and lymph-nodes of these guinea-pigs, non-tuberculous nodules developed, which may be an evidence of immunization. Foreign proteids were not absorbed by the intestinal walls, yet slight amounts of diphtheria and tetanus antitoxin passed through in young, but not in older animals. In rabbits the intestinal walls were found much more permeable toward both bacteria and proteids.

Iron Pigment in the Thyroid Gland.—G. Lovell GULLAND and ALEXANDER GOODALL described the presence (*Lancet*, Aug. 19, 1905) of pigment giving the free iron reaction in the thyroid. The gland tissue was fixed in sublimated formalin and sections were stained with eosin and methylene blue to show the general structure. To demonstrate iron, sections were placed in a mixture of potassium ferrocyanide and hydrochloric acid and afterward counterstained with carmalum. Sections of thyroid gland taken from patients suffering from pernicious anemia, secondary anemia, medullary leucocythemia and lymphatic

leucemia, as well as from the glands of animals utilized experimentally in phenylhydrazin hematology showed the presence of free iron pigment. Examination of a large number of thyroid from all the common laboratory animals in normal condition was negative. The pigment is most commonly found in connective tissue cells between the vesicles. It is also present in small scattered areas in the epithelium lining the vesicles, and may be found in the cells lying free among the colloid material. It is most abundant in the more cellular parts of the thyroid where the colloid vesicles are small.

Staining Reaction of Spirochæta.—LEONARD S. DUDGEON recommends a method (*Lancet*, Aug. 9, 1905) of staining the spirochæta found in syphilitic lesions. Having made cover-slip preparations of the exudate, a few drops of a one per cent. solution of Leishman's powder in absolute methyl alcohol, just sufficient to completely cover the film, is poured on and allowed to fix and to stain the specimen for thirty minutes. Then double the volume of distilled water as the stain is allowed to run on the cover-slip and thoroughly mix with the stain, the staining process being continued for five minutes more. The diluted stain is poured off and distilled water run on and allowed to remain for one minute. Surplus stain and any precipitate is now removed by squirting distilled water on to the film. Blot dry and mount in Canada balsam.

A Theory of Gout.—There seems to be return to older views on the subject of the dependence of gout upon functional derangement of the liver and kidneys in the theory advanced by H. KIONKA (*Zeitsch. f. Exp. Pathol. u. Therap.*, July 21, 1905). His researches point to two facts: (1) In gout there is a functional disturbance of the liver, and probably of other organs, consisting in a failure in the activity of the urea-forming ferment. (2) A disturbance of the uric acid excretion by means of the kidneys, probably only functional, and probably determined by the nature of the uric-acid bindings in the blood of the gouty individual. These disturbances may be congenital (hereditary gout), or they may be the result of vicious modes of life and diet, or may be the result of toxins (lead, alcohol).

The Resemblance Between "Plimmer's Bodies" of Malignant Growths and Certain Normal Constituents of Reproductive Cells of Animals.—The observations made last year by the investigators working under the auspices of the Cancer Research Commission, established the fact that certain cells, particularly in the periphery of new growth, betray peculiar forms of mitosis, which are characteristic of the proliferating germinal cells. These same investigators, J. B. FARMER, J. E. S. MOORE and C. E. WALKER (*Proc. Royal Society*, Aug. 3, 1905) have been able to further fortify the contention that cancer represents an atavistic phenomenon, a reversion to the habits of the cells during early embryonic life. Their recent studies were concerned with the nature of the so-called "Plimmer's Bodies," which have been characterized by their discoverers as parasites possibly causing the malignant formation. The authors found that these bodies, which appear like large vesicles in the cells, are really very much like, if not identical with, the clear vesicular bodies observed during a certain stage in the life history of the germinal cells.

Delayed Chloroform Poisoning.—The interesting condition of delayed chloroform poisoning is discussed (*Lancet*, Aug. 12, 1905) with a thorough nec-

ropsy report by E. W. S. CARMICHAEL and J. M. BEATTIE. The patient, a girl, aged three and three-quarter years, died forty-two hours after excision of the right elbow-joint. The duration of the anesthesia was thirty minutes, five drams of chloroform having been used. The symptoms were chiefly vomiting, restlessness and collapse. No gross pathological condition was demonstrated in any of the organs, save the liver, which was extremely fatty; the kidneys, which were swollen and pale, and the suprarenals, which were enlarged, firm and of a bright canary color. Histologically the cardiac muscle showed in places slight granulation, the capillaries in the alveolar wall of the lung were moderately dilated, and minute fat droplets were present in some of the cells; the liver cells were granular, swollen and markedly vacuolated and crowded with fat globules from the center to the periphery of the lobules. Fat was also seen in the cells lining the bile capillaries and in the endothelial lining of the blood capillaries. Aside from the fatty change, no other abnormality of the liver was found. As to the kidney, the cells in all the tubules, collecting as well as secreting, were swollen and granular, and in paraffin sections there was very distinct vacuolation. Only here and there a few of the collecting tubules showed no fat. In this case, contrary to the case described by Stiles and McDonald, there was fatty degeneration of the whole of the glandular cells of the suprarenal. The mesenteric glands were the only ones examined. In the lymph spaces of these there were numerous fatty cells. As regards the spleen, some of the smaller arteries showed swelling and hyaline degeneration in their middle coat, and there were a few fatty large mononuclear cells in the lymph spaces. The secreting cells of the stomach, both central and peripheral, were swollen, granular and vacuolated, but the nucleus stained perfectly throughout. Examination of the bone marrow showed a larger amount of fat cells than is usually found at this early age. No ante-mortem blood examination was made, but from observations upon the blood in the vessels a condition of leucopenia is surmised to have existed.

Treatment of Cancer by Thyroids Combined with X-Rays.—The origin of the first conception as to the usefulness of sheep thyroids in the treatment of cancer is uncertain. Perhaps it was a vague recollection that they were one of everything tried for that purpose. CHARLES AM ENDE (*Am. Jour. of Surgery*, Aug., 1905) makes a preliminary report on some cases that have been under his care and which have been treated with thyroids combined with X-rays. Out of six cases, three responded satisfactorily. Three cases that had failed under X-ray alone responded promptly on the addition of thyroid. One, a case of facial epithelioma, is completely cured and so far without a relapse. The second, a case of sarcoma, left considerably improved in October for his native city where X-rays alone continue to be administered. The third, a carcinoma of the breast, is apparently cured, but is still kept under observation. Satisfactory explanation for the mode of action of these thyroids cannot be offered. The reduction of swellings, not exactly tumors; the absence, if not prevention of metastases; and perhaps, too, the rapid cure of the fresh-forming breast tumor point to an effect upon the lymphatics. Another obscure point is, why after the failure of either singly, these thyroids or the X-ray, their combined use gave the above-related results. Arsenic administered simultaneously with these thyroids should be cautioned against.

PRESCRIPTION HINTS.

Treatment of Acute Conjunctivitis.—The conjunctivitis due, in general, to the bacilli of Weeks is contagious. At the outset of the inflammation, antiseptic lotions are indicated. The lotion Dr. Wuillommet employs is cyanine of mercury, 0.25 for 1,000 grms. of water. At the same time, and for eight to ten days, the following collyrium is instilled in the eye:

℞ Sulph. of zinc.....gr. v
Water.....drs. iiss

If in a few days there is no improvement, recourse may be had to—

℞ Protargol.....grs. xv to xxx
Water.....drs. iiss

or—

℞ Argylol.....grs. x to xv
Water.....drs. iiss

These solutions are not painful and give satisfactory results.

Where the conjunctivitis is purulent and due to the gonococci of blenorragia, a solution of nitrate of silver should be employed:

℞ Nitrate of silver.....grs. v
Water.....drs. iiss

followed immediately by chloride of sodium, grs. xxx; water, drs. iiss.

Treatment for Keratitis.—The same antiseptic lotion should be employed as for conjunctivitis, and the following ointment:

℞ Iodoform.....grs. v to x
Vaseline.....drs. iiss

or—

℞ Yellow oxide of mercury.....grs. i to v
Vaseline.....drs. iiss

Where the perikeratic injection is pronounced, a solution of atropine should be instilled into the eye.

Iritis.—If the inflammation of the iris is acute with intense pain, four or six leeches to the temple will give good relief.

The atropine solution should be used at an early date, and—

℞ Strong mercurial ointment.....drs. iiss
Ext. of belladonna.....grs. xv
rubbed over the eyebrow.

If the inflammation is very acute, the following solution might be ordered:

℞ Sulphate of atropine.....gr. j
Hydrochl. of cocaine.....grs. iv
Solution of adrenaline.....mxxx
Water (1-1,000).....drs. iiss

One drop in the eye every three hours.

Paracentesis of the anterior chamber may be indicated if the tension is great and the pain severe.

Glaucoma.—In acute or subacute glaucoma, iridectomy should be performed as quickly as possible, and from the outset of the attack four or five installations of—

℞ Hydrochl. of pilocarpine.....grs. ij
Sulph. of eserine.....gr. ¼
Solution of adrenaline (1-1,000).....dr. j
Water.....drs. j

should be made daily. Besides their curative action they give great relief.

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MEDICAL UNION ONCE MORE.

At the meeting of the New York State Medical Association, to be held in the Academy of Medicine here in New York City next week, there is to be a renewal, and it is hoped a final one, of the effort to bring about the union of the two medical organizations which at present divide the allegiance of the members of the medical profession in New York State. Both the medical organizations on different occasions have voted unanimously that union should be effectuated, and after having appointed committees for this purpose, have come to a rational basis on which fusion can take place without the sacrifice of dignity on either side, and to the betterment of the interests of the New York profession. It would indeed be unfortunate if union should be once more delayed. After the high hopes, that were raised last year as to the near approach of fusion, were dashed to the ground, it was felt that beyond doubt another year would surely see the consummation so devoutly wished.

It seems well to recall some of the notable accomplishments which are to the credit of the medical profession of the Empire State, when they were a united body. It must not be forgotten that to their initiative is due the passage of laws for the regulation of the practice of

medicine, better and more satisfactory than in almost any other State. New York was a pioneer in most of the ameliorations of conditions for the medical profession, and other States looked confidently and followed with assurance her example. It is to the energy of the Medical Society of the State of New York that we owe the Pharmacopœia, with all of the attendant train of benefits that followed its establishment. It is to New York and members of the then united profession in this State, that the medical profession of this country owes the American Medical Association and the consequent national union of physicians which has meant so much for the uplift of professional dignity as well as the wider spread of scientific knowledge. Even after disunion it is to New York that must be mainly ascribed the foundation of the Association of American Physicians, which has been of special significance in the introduction of scientific methods and the publication of scientific progress of importance to this country.

It is sad to think that the possibilities for the good of the medical profession which have always been so prominent in New York should, during the last quarter of a century, have been almost entirely lost for the benefit of the profession at large. There is no doubt that the National Association has missed much from the failure to have the benefit of the cooperation of many members of the New York State medical profession, during the last two decades of the nineteenth century. There is no doubt even that the gradual change of sentiment with regard to the ethical principles which must serve as a guide to the practitioner of medicine, within the Association itself, has come as the result of the stand taken by some of the New Yorkers, and which has been justified in its results.

It is possible that, even at this late day, there may arise within the New York State Medical Association a concerted action on the part of a few to prevent, if possible, or at least to hamper the preliminary details of union of the New York medical organizations. Certainly none of the really prominent members of the medical profession and none of those who can be said to have the best interests of the medical dignity at heart are engaged in any such movement. The profession of this State will not lightly forget nor easily forgive any attempt to prevent the union of the two organizations which such a preponderating majority of the medical profession of this State now earnestly desire. This

must not be forgotten by those who might, for the sake of the notoriety involved in such a procedure, attempt to prevent what is so surely for the best interests of the New York State medical profession.

Certainly no more propitious time than the present could possibly be selected for the union of the divided profession. Next year sees the centennial anniversary of the foundation of the County Societies, and of the passage of the law for the establishment of the Medical Society of the State of New York. No worthier feature of that celebration could possibly be thought of than the fusion of the profession into one medical organization that would at once begin to assert its old-time influence in all matters medical, State as well as national, and would undoubtedly prove the source of many and important blessings to the medical profession of the country. Let us not have paltry excuses for the continuance of opposition that is now without rational basis, and since we are in a country where the majority is supposed to rule, let all the members of the medical organizations gracefully submit to what is evidently the will of the majority for the re-establishment of a single thoroughly representative State medical organization in New York.

STATES' RIGHTS AND A NATIONAL QUARANTINE.

THE first guns that were fired in the struggle for a national quarantine law were strongly indicative of the feeling in the South and showed very clearly the lines along which the opposition would lie. As far as the yellow fever and the quarantine, however, are concerned, the whole subject was second only in importance to that of immigration. This has been clearly demonstrated by the editorials in Southern papers during the last few weeks; in fact from the time that the idea of the call for the meeting at Chattanooga was conceived.

This is natural from the Southern point of view, for, as one writer stated, the yellow fever is only a matter of a few weeks; the outbreaks are often several years apart, and though shot-gun quarantines are a disgrace to civilization, even their horror would pale before the condition that would ensue if a race war were precipitated by the introduction of alien labor. The negroes are, of course, present in the South in large numbers, and the question of race suprem-

acy is in some districts already a serious one. If to this problem were added the introduction of coolie labor, with the concomitant bad feeling that the competition would necessarily engender, a state of affairs they fear would ensue which to them would be worse than any epidemic of fever. Added to this, the time of the year is fast approaching when the fever will die a natural death, and the confidence of the Marine Hospital Service that the epidemic could be suppressed with the officers and material at hand, without the personal supervision of its highest executive officers, has had a most calming and beneficial effect. Of a certainty nothing could have been more deserving of praise than the management of this most difficult situation by Dr. White, and the movement to have him permanently stationed at New Orleans is only a just and deserved tribute to the success that he has attained.

What the future benefits of this particular meeting will be it is hard to say. Interstate legislation is always a difficult matter to inaugurate and control when the interests of the States differ, and in this case it has become painfully apparent that only the strong arm of the Federal law will suffice. But it is right here at the beginning of the controversy that the real difficulty assumes a positive shape and that the old slogan of "State rights" rends the air in a manner that is more than reminiscent of antebellum days. Thus Senator Morgan, of Alabama, in a letter to Governor Jenks, of that State, intimates that the success of the government operations in Louisiana has made a plea for Federal supremacy that is in conflict with many views of State sovereignty and well-settled opinions as to the wiser policy. He does not perhaps specifically claim that Congress *cannot* enact a national quarantine law that would take away the powers of the States, yet he does think that some other arrangement should be advocated by which a compromise could be effected.

Senator McEnery, of Louisiana, too, in a speech recently delivered at New Orleans, while he denounced the local quarantine as "irregular, cruel and brutal," and as leading to anarchy and unfriendliness between neighboring States, still believed that a national quarantine law could be framed that would guard the public health and at the same time conform with the sovereign rights of the States. "For," he said,

"citizens of the United States are citizens of every State, with the right to travel from one State into another without expatriation or naturalization. The Federal Government," he continued, "has the power to protect freight trains and passenger trains going from one State to another, but if there is infection on either train the people at stations along the route are not compelled to allow the passengers to get off and mingle with the citizens, or to receive the freight consigned to that locality. Here the peril appears and the State's authority springs into existence, but the people along the route have no right to detain the train or in any way impede its progress to its destination. Neither have they the right to prevent a passenger from going to his destination when it is necessary for him to go from one train to another. He has passed beyond State jurisdiction and is under the jurisdiction of the Federal Government."

Now, unfortunately, there is a clause in the Constitution of the United States which provides "that no State shall, without the consent of Congress, enter into any agreement or contract with another State," and in order to overcome this Senator Morgan suggests that the States interested shall enter such a compact, which, having been submitted to Congress and ratified, will then have all the force and effect of a constitutional ordinance.

It has also been pointed out, that as treaties with foreign powers enable Congress to legislate for the quarantine of cholera and the bubonic plague without the interference of the local police power, that similar treaties might be negotiated in order to guard against yellow fever. But the uncertain life and duration of these treaties would probably make this method of procedure less desirable than the compacts between States. For these agreements when once adopted cannot be repealed, unless especially so stated in the compact, without the consent of all the powers concerned, so that Senator Morgan's project at treaty making between the States, subject to ratification of Congress, apparently solves the problem of preserving States' rights while enforcing interstate quarantine.

For *States' rights* will be the lion in the path in all questions of a political nature in the South; it always has been and it will always be, as much now as "before the war."

SCIENTIFIC MEDICINE IN NEW YORK CITY.

It has been the custom sometimes for some of those who have the privilege of being members of the medical profession, but not that of living and practising in New York City, to say that the metropolis is a rather sordid place anyhow, that the members of the profession as a rule care only for the money there is in it, and that scientific medicine is unfortunately only too often neglected or else at a very low ebb. Of course we appreciate the fact that most of this jealous tone of complaint is due to the fact that not all the medical profession of this country can live and practise in New York City, and that those who are outside of it must find some compensation for the good things they know they are missing. We would recommend to them the good old saying, that contentment is the feeling that things might be worse, and in the meantime we would suggest that in recent years at least New York City has become quite as distinctly a leader in original research in medical science as it has always been a pioneer in medical, social progress, and the power behind what is best in professional life.

As some evidence of the rejuvenescence of medical scientific interest in the city, attention may be called to the organization of the Society of Experimental Physiology and also of the Society of Experimental Biology and Medicine. Both of these organizations have given striking evidence of their vitality and of their capacity to do good work of the best possible kind in medical research and scientific investigation. Recently there has come the organization of the Harvey Society, a society for the diffusion of knowledge of the medical sciences whose program furnishes the best possible proof of how ambitious is its aim. Some of the best teachers and most original thinkers from this country and from Europe are to deliver lectures under its auspices this winter at the Academy of Medicine, which are sure to attract the widespread attention of the medical profession and furnish them with precious information.

It must not be forgotten that New York City has had some of the best landmarks of scientific medicine in the country even before these societies were organized. When Professor Waldeyer, of Berlin, was in this country he thought, and did not hesitate to say, that some of our institutions for research and investigation in medicine were even better equipped than any of those

that he had seen in Europe, and he confidently prophesied a time when European medical students would come over here to complete their education as American medical students have been accustomed to go to Europe in the past. Among the institutions for which Professor Waldeyer had the highest praise was the Laboratory of Professor Huntington at the College of Physicians and Surgeons. As the German professor's own department is that of anatomy, he may be considered to be in an excellent position to judge absolutely of what he speaks. The laboratories of the other New York medical schools deserve almost as high praise as this and some excellent work is being done of the highest permanent value, especially in the pathological departments.

The coming of the Rockefeller Institute to New York has made a new center for medical investigation and has brought to us some extremely suggestive teachers who are themselves investigators of a high order. With the institute there came also the *Journal of Experimental Medicine*, whose publication here will doubtless prove an inspiration to many an original investigator. Quite recently the announcement of the appearance of another distinctively scientific publication, to be called the *Journal of Biological Chemistry*, is another index of how New York is coming to her own in this matter of encouraging and accomplishing original scientific work of enduring value for the entire country.

We are proud to think and to say that the metropolis is well engaged at original work, that all excuse for the old stigma of pecuniality, to suggest a word, if it really ever had a serious existence, is now passing away. We hope sincerely that the rising generation of physicians, the young men, literally, will realize that the fulfillment of the hopes now so promising depends entirely on them. Science has rewards, better in the personal satisfaction and consciousness of good work well done, better even than can come from a lucrative practice. The only thing worth while is to be engaged at work that is successful and satisfying. Long ago the wise man said, "Blessed is the man who has found his work"—and this is never truer than when applied to the successful medical investigator whose work means a lessening of suffering and a material increase of happiness for all mankind.

ECHOES AND NEWS.

NEW YORK.

Cornell University.—The registration just closing in the Cornell University Medical College shows a decrease over the best of the previous years. The three advanced classes are somewhat larger than usual, but the first-year class, which hitherto has contained an average of about 130 students, this year has less than 120. Medicine at present does not seem as attractive a calling as business, although 85 per cent. of the Graduating Class last year obtained hospital positions, and the hospital graduate has undoubtedly a better chance of success than others.

New York Academy of Medicine.—The Section on Medicine will meet Tuesday evening, October 17, 1905, at 8.15 o'clock. The following interesting program will be presented: (1) Presentation of Cases and Specimens. (2) Clinical Reports: (a) Pneumonia followed by Pneumococcus Meningitis, with autopsy; (b) Primary Carcinoma of the Pancreas with Metastases in the Liver, Vertebral Column and Calvarium, by Warren Coleman, M.D.; (c) A Case for Diagnosis, by E. E. Smith, M.D. (3) Papers: (a) "Tachycardia," by John J. Morrissey, M.D.; (b) "Exploration of the Chest and Physical Signs in Beginning Pulmonary Tuberculosis," by Geo. Mannheim, M.D. Discussion by Drs. H. F. Loomis, Egbert LeFevre, S. A. Brown and others is announced.

Dr. Darlington Asks for \$2,516,396.—During the consideration of the budget for 1906 at the recent meeting of the Board of Estimate and Apportionment in the City Hall, Controller Grout and Health Commissioner Darlington had a heated controversy over the estimates of the Board of Health. Dr. Darlington asked for \$2,516,396, practically double the allowance of the Health Board for this year. Nearly \$200,000 of this was asked for the purpose of making a closer examination of the children in public schools. Controller Grout and President Littleton, of the Borough of Brooklyn, brought out the fact that it was President Darlington's intention to examine practically every pupil in the city's schools, and they gave it as their opinion as lawyers that the Health Department had no right to force either children or adults to submit to medical examination or to invade homes, except where there was ground for belief of the existence of contagious disease.

Many Unsanitary Bakeries.—Commissioner Darlington, of the Board of Health, announced recently that his department, working in connection with a delegation of the Central Federated Union, had inspected forty-two bakeries in Manhattan, and that most of them were in an unsanitary condition. The Commissioner said he was making plans to have every bakery in the city inspected. When the bakers' strike was in progress in the East Side reports were circulated as to the condition of the shops. A delegation of the bakers visited the Commissioner, and he immediately started an investigation and detailed inspectors to examine the 42 shops that the strikers said were unsanitary. The inspectors recently reported that 22 of the shops needed immediate alterations. When the Commissioner heard the report, he ordered the necessary changes to be made at once. The strikers had reported that many of the bakers had consumption, but the inspectors found no cases of the disease in any of the 42 shops.

PHILADELPHIA.

Bequest.—The Orphans Court, in adjudicating the estate of Cornelia Thompson, awarded \$10,000 to the Presbyterian and \$5,000 to the Children's hospitals.

To Do Missionary Work.—Since completing his internship at the University of Pennsylvania Hospital, Dr. Joseph McCracken, formerly a star foot-ball player, has decided to go to China as a medical missionary. While at college he was one of the foremost and earnest workers of the Young Men's Christian Association.

Cornerstone of a New Hospital Laid.—October 7 witnessed the laying of the cornerstone of the new Hahnemann Hospital at Scranton, Pa. The institution when completed is estimated to cost \$82,000, and when the additional wings are finished the cost will approximate \$150,000. Deputy Attorney-General Fleitz was the principal speaker.

Tuberculosis Discussed.—Last Thursday, October 12, the Committee on Tuberculosis of the Civic Betterment Association held a meeting in the rooms of the Civic Club, 1615 Walnut Street, and listened to an address made by Dr. W. B. Stanton, of the Henry Phipps Institute, on "The Present Situation in the Crusade Against Tuberculosis in Philadelphia." Plans for an active campaign were discussed.

Received a French Decoration.—Dr. E. C. Kirk, Dean of the Dental Department of the University of Pennsylvania, has been awarded the decoration of "Officer d'Academie" by the French Government. The decoration was forwarded to Dr. Charles Gordon, honorary president of the Federation Dentaire Internationale, of which Dr. Kirk is Secretary-General, and consists of a violet ribbon and a silver wreath. Dr. Kirk has been editor of the *Dental Cosmos* since 1901, and is the author of many works on dentistry.

Hospital Officers Elected.—The meeting for the reorganization of the Board of Directors of the State Hospital for the Insane, at Norristown, held October 6, was marked by the election of officers. Dr. Joseph Thomas, of Quakertown, was elected president; J. M. Hackett, of Easton, secretary; Frank L. Smith, of Norristown, treasurer. Dr. Julia Hardin, of Philadelphia, was elected assistant resident physician of the female department—a position just created. Miss S. Catherman was made supervisor of the female department. Last year the expenses of the institution amounted to \$434,242, an increase of \$16,875 over the preceding year, but there was an increase of 105 patients to the hospital, there being in all 2,380 on the rolls now.

Lecture on Teeth.—Last week the students of the University of Pennsylvania listened to a lecture delivered by Prof. Willoughby D. Miller, of the University of Berlin, upon the subject of "The Researches Relating to the Pathology of the Teeth." He gave a brief report of the work done by him in this line through experiment. The form of disease which he has most often seen is characterized by the wasting and the loss of the hard structure of the teeth; this he regards as an evidence of caries of the teeth. At the opening of the fiftieth year of the Pennsylvania Dental College, Eleventh and Clinton streets, Dr. George Warren delivered the address. The indications are that the enrolment this year is the largest in the history of the institution.

School House Unsanitary.—In last week's issue of the *MEDICAL NEWS* attention was directed to the condition of the Station House at Haddington; inter-

est is now directed to the condition of a school not far from the property referred to. The School Board of the Thirty-fifth Ward listened and were deeply impressed with the declaration made by Chairman Charles Hessonbruch, of the Warren School. He told the Board that the cellar of this school is filled with water; that the odor about the building was nauseating, and that nineteen windows are minus panes. If the Board did not attend to the matter at once he is inclined to hold them responsible should any typhoid fever develop among the pupils. The School Board promised to clean the building and try to put it in a sanitary condition.

Meeting of the American Philosophical Society.

—At this meeting, which was held October 6, Dr. George A. Piersol, of the University of Pennsylvania, delivered an address on the "Problems in Human Anatomy." He called attention to the fact that the beneficence of General Wistar in establishing an institution of research will be of the greatest value to medicine and surgery. At the same meeting Dr. John MacFarland delivered an address on "New Species of *Drosera* from the Gulf States." Samuel Dickson was nominated to succeed General Wistar on the Board of Councillors and Prof. Henry F. Osborne, of New York, was also nominated as Councillor to succeed Henry Baird, who resigned because of the action of the society in accepting an appropriation from the last legislature for the Franklin bicentenary celebration.

Meeting of the Section of Medicine of the College of Physicians.

—This society held its regular meeting October 9, at the College of Physicians. Dr. Joseph Sailer presented one patient with Hodgkin's disease and another with obliterative pericarditis. Dr. James Wilson read a paper entitled "Some Observations on the Diagnosis of Acute Pancreatitis." This paper was discussed by Drs. Edsall and Eshner. The next paper was read by Dr. Alfred Stengel on "A Case of the Stokes-Adams Syndrome." Drs. Hare, Francine, Riesman, Scott and Robinson took part in the discussion. Dr. Howard Fussell read a paper on "The Position and Size of the Heart in Advanced Cases of Mitral Stenosis." It was discussed by Drs. Hare and Robinson. Dr. J. Dutton Steele read a paper on the "Clinical Examination of the Feces." The last paper was read by Dr. Joseph Sailer, on "Tuberculosis of the Liver."

Citizens Discuss the Conditions of the Water at Nanticoke.

—Recently the citizens of Nanticoke, where typhoid fever is epidemic, held a meeting first to discuss means of aiding the authorities in combating the disease and second to serve notice to the Nanticoke Water Company that filtered water must be supplied without additional expense to the people. Dr. F. C. Johnson, of the Department of Health, has been able to isolate a case of typhoid fever which occurred along a stream leading to the watershed from which Nanticoke draws its water and in which case he found that no disinfectant had been used; this case may be responsible for the wide spread of the enteric fever. He lays stress upon the gross neglect of the patients in regard to diet; those suffering with the disease believe they must eat heartily. Other people wilfully neglect to boil their drinking water. Up to October 4, there were 334 cases and 28 deaths.

Hospital Needs More Room.—Plans are on foot to enlarge the American Hospital for Diseases of the Stomach, which has been established by the philanthropic citizens at Eighteenth and Wallace streets.

It is the intention to enlarge the place, so as to afford more beds to accommodate suffering people and to establish a laboratory where the abdominal diseases can be studied. The following are managers of the institution: Clayton McMichael, G. Heide Norris, Henry R. Edmunds, Barclay H. Warburton, Henry A. Fry, The Rev. Herman L. Duhring, The Hon. William N. Ashman, Charles C. Newton, Dr. James McAlister, William R. Verner, Samuel H. Cramp and J. P. Brinton. William R. Verner is treasurer. The medical staff consists of the following physicians: Dr. John B. Deaver, Dr. D. D. Stewart, Dr. Lewis Brinton, Dr. John B. Shober, Dr. Sherbourne W. Dougherty, Dr. James Thornington and Dr. Ludwig Loeb. The present hospital accommodates thirty patients; possesses a diet kitchen and dispensaries.

The Canstattters' Raised Funds for Charity.—As a consequence of the Canstattters' Volksfest the following hospitals will receive aid: German Hospital, \$400; St. Mary's Hospital, \$250; German Protestant Home for Aged, \$150; German Reformed Home for the Aged, \$150; Little Sisters of the Poor, \$150; St. Agnes's Hospital, \$150; Methodist Episcopal Hospital, \$150; Lutheran Orphan Home, \$150; Sanitarium at Red Bank, \$100; Children's Country Week Association, \$100; St. Vincent's Orphans' Home, Tacony, \$100; Jewish Hospital, \$100; Soldiers' Home for Old Couples, \$100; Ladies' Aid Society of German Hospital, \$100; Samaritan Inn, \$100; Homeopathic Children's Hospital \$100; Frankford Hospital, \$100; Union Home for Old Ladies, \$80; Old Ladies' Home, Wissinoming, \$50; Northern Day Nursery, \$50; Seamen's Friends' Society, \$50; Northern Dispensary, \$50; Germantown Hospital, \$50; Samaritan Hospital, \$50; Northern Home for Friendless Children, \$50; Homeopathic Woman's Hospital, \$50; West Philadelphia Hospital, \$50; Nazarene Home, \$50; St. Timothy's Hospital, \$50; Presbyterian Hospital, \$50; Christian Home for Children, \$50.

CHICAGO.

Pharmacy Board Helpless.—Attorney-General Stead has rendered the opinion that under the present law the Board of Pharmacy cannot prosecute for adulteration of drugs and medicines.

Hospital for Illiopolis.—Dr. Louis Declermont, of Washington, D. C., has secured an option on 640 acres of land at Illiopolis. On this land the United States Government contemplates building a \$400,000 hospital for the army and navy. It will be for the treatment of bowel and stomach disorders. The capacity is to be 3,000 patients. The Illiopolis authorities must furnish lighting facilities and water supply.

Graduation Exercises at Michael Reese Training School.—This training school for nurses held its annual exercises October 5, in the Standard Club Hall. There were twelve members in the class. Dr. D. N. Eisendrath, of the medical staff, spoke to the nurses on the importance of securing a State Board license to nurses, that their profession may be raised to a higher plane. Mr. Herman F. Hahn, President of the Hospital, delivered an address.

City Health Force to Be Increased.—An additional appropriation of \$8,500 for the employment of more men in the City Health Department was recently voted by the Council Finance Committee. Health Commissioner Whalen informed the committee that "the public is complaining bitterly because of our inability to remedy conditions." The appropriation will be used for the following employees: One stenographer, six

plumbing inspectors, two clerks and six meat and food inspectors.

Yellow Fever.—A yellow fever refugee from Natchez, Miss., died in this city on October 4 from yellow fever. He came to Chicago on September 27, and on his way North was taken sick. Dr. Heman Spalding, chief medical inspector of the City Department of Health, said that there is absolutely no danger of infection in this climate, as the only means of infection, the Southern mosquito, cannot exist here. But to be doubly sure, the room in which this patient died was carefully disinfected.

New Building for Chicago Polyclinic.—The Chicago Polyclinic is making preparations to erect a new hospital at the southeast corner of Oak Street and La Salle Avenue. Through the President, Dr. Ferdinand Henrotin, the institution has obtained a loan of \$300,000 in the form of a bond issue. The Northern Trust Company is trustee for the loan, which is secured by the site of the new hospital and the property on Chicago Avenue, which is the site of the present hospital buildings. The new structure is to be six stories in height, and will be up to date in all departments.

City Meat Inspection.—Former Chief Government Meat Inspector Orrin E. Dyson has given his views as to the proper field for the city examiners. They should confine their activities to South Water Street, he said, and certain shops which handle meat not killed at the stockyards. Dr. Tyson said the city's inspectors do not add thoroughness to the work at the stockyards, because, being only six in number, it is impossible for them to be on hand to make proper examination. The competency of the city inspectors was also questioned, it being asserted that they lacked the necessary training.

New Maternity Hospital.—It is a source of satisfaction and congratulation to Chicagoans that the splendid work which the Chicago Lying-In Hospital and its associated dispensaries have been doing quietly and unobtrusively among the poor women and children in the west and northwest sections of the city is to be broadened in its scope. Land has been secured on the South Side, and a maternity hospital, thoroughly modern and perfectly equipped, is to be erected at once. The plans are already under way. The men's board of the Lying-In Hospital has pledged itself for the necessary money, and in order that it may be left free to attend to this the woman's board has agreed to raise \$8,000 to complete the funds for the running expenses of the present hospital for the current year. This will be done by public subscription. Regarding this new hospital, the Chicago *Daily Tribune*, October 7, editorially remarks that "Chicago likes to feel that it keeps up with or is a little ahead of other cities in matters of philanthropy. It soon will be able to point with pride to a long-needed and most valuable addition to its charitable centers—its new maternity hospital."

American Association of Railway Surgeons.—The second annual meeting of this association was held in Chicago October 4, 5 and 6, under the presidency of Dr. John E. Owens, Chicago. The association has three kinds of membership, permanent members, delegates and associate members. Although American in name, the association is cosmopolitan, and has members from Canada and Mexico. Forty papers were read, most of them being freely discussed. One session was taken up in discussing the care of fractures; conservative treatment of compound fractures; wiring as a means of securing the best results in compound fractures of the long bones; direct fixation in fractures; fractures of the vertebral column involving the cord and its treatment; fractures of the spine; Colles frac-

tures; fractures of the patella and fractures of the leg. An interesting feature of the meeting was a lantern slide exhibit of anopheles and stegomyia mosquitoes, with remarks on how freight and passengers are handled from the quarantined city, New Orleans, by Dr. L. Sexton, of New Orleans. The papers presented at this meeting were of a higher order and more scientific than usual. The various subjects were treated by men with extensive and varied experience. Dr. John B. Murphy, of Chicago, gave an interesting and instructive talk on the relations of trauma to bone tuberculosis. The high character of the work done at this meeting augurs well for the future greatness and prosperity of the association. The following officers were elected for the ensuing year: President, Dr. Richard W. Corwin, Pueblo, Col.; Vice-Presidents, Dr. J. H. W. Meyer, La Porte, Ind.; Dr. S. L. McCurdy, Pittsburg, Pa.; Dr. Bacon Saunders, Fort Worth, Texas; Secretary, Dr. H. B. Jennings, Council Bluffs, Iowa; Treasurer, Dr. T. B. Lacey, Council Bluffs, Iowa; Editor, Dr. Louis J. Mitchell, Chicago, Ill.; Members of the Executive Board, Dr. W. S. Hoy, Wellston, Ohio, and Dr. J. R. Hollowbush, Rock Island, Ill. The time and place of the next annual meeting were left to be decided by the Executive Board.

CANADA.

Opening of Toronto Medical Faculty.—The Medical Faculty of the University of Toronto opened for the session 1905-1906 on the evening of October 3, the opening address being delivered by Dr. Victor C. Vaughan, of the University of Michigan. The Dean, Dr. R. A. Reeve, in the course of a short address made the announcement that the new term attendance established a record for the institution, there being 146 at that time enrolled on the register in the first year. The total registration in the medical faculty was then 550.

Montreal Foundling Hospitals.—The Medical Health Officer of Montreal holds that if illegitimate and still-born infants were not numbered in the city's death rate the annual percentage of deaths in Montreal would make a much better showing. He states it is not the custom in many other cities to include such deaths, and that it is desirable that a change in the system be made in Montreal. The deaths occurring in 1904 in the foundling hospitals were 404. Throughout the city there were: Premature births, legitimate, 229; premature birth, illegitimate, 49; still-births, legitimate, 425; still-births, illegitimate, 54. This makes a grand total of 1,237.

Toronto General Hospital.—During the week ending October 7 a few gentlemen interested in the new General Hospital for Toronto met in the office of a well-known banker, and within the space of a few minutes over \$250,000 was subscribed for the new project. The Hon. Senator Cox gave \$100,000; Mr. Timothy Eaton gave \$50,000; Mr. J. W. Flavelle, the chairman of the Hospital Trust, \$25,000; Mr. E. R. Wood and Mr. E. B. Osler, M.P., each \$25,000; Mr. B. E. Walker, Mr. H. D. Warren and Mr. P. C. Larkin, another member of the Hospital Trust, each contributed \$10,000. The available fund now amounts to \$850,000, but the projectors will require \$400,000 or \$500,000 more. General subscriptions will be solicited in the course of the next few weeks.

Extending Medical Course in Quebec.—According to several men in Montreal, who are in touch with the trend of medical affairs in the Dominion of Canada, the medical faculties of the various universities will insist on a five-year course in the immediate future,

before granting the M.D. degree. At the recent meeting of the College of Physicians and Surgeons of the Province of Quebec a resolution was passed authorizing a petition to the legislature to extend the course of study to five years' work. The authorities at McGill University state that although the matter has been under discussion at various times during the past few years that nothing definite has yet been done, but that it is altogether likely that within the next two or three years the five-year course will be in vogue in that university.

Montreal Maternity Hospital.—A fine new Maternity Hospital has lately been completed in Montreal, and will be ready for occupation in a week. For the purpose of bidding good-bye to the old institution, Dr. J. Chalmers Cameron, the physician in charge of the institution, held an afternoon tea on October 6, when some four hundred friends of the institution were present. In the course of the entertainment Dr. Cameron took occasion to refer to the history of the institution in the past. The hospital was founded in 1848 for the purpose of giving instruction in the obstetric art to the students of the Medical Faculty of McGill; and one of the earliest by-laws of the institution provided that the professor of obstetrics at McGill should be the physician in charge of the hospital. The total number of cases for the past year numbered 400, 110 of these coming from outside Montreal. In the preceding year there were 321, two-thirds of whom were married women. Since the training school for nurses was opened in 1896 about eighty nurses from the city hospitals have taken their three months' course of training there.

GENERAL.

A Notable Birthday.—Professor Eberth, Director of the Pathological Institute in Halle and discoverer of the bacillus of typhoid fever, celebrated his seventieth birthday on September 21. He was born in Würzburg, and received his medical education there. In 1865 he was appointed Professor of Pathological Anatomy in Zürich, and was called to Halle in 1874.

Anti-Tuberculosis Serum.—Sections of the International Tuberculosis Congress in Paris on October 6 resumed the discussion of papers and received reports of experiments. A description by Prof. Marmorek, of the Pasteur Institute, of the successful results obtained by numerous distinguished European savants from the use of his new anti-tuberculosis serum attracted considerable attention.

Diphtheria Well in Hand.—The authorities of the Naval Academy at Annapolis announced on October 6 that there had been no new cases of diphtheria among the members of the fourth class for four days and that the situation is well in hand. Many of the patients are entirely well or are making satisfactory progress. There is no likelihood of any further extension of the leave of the midshipmen beyond October 14, the date now fixed for the opening.

Yellow Fever Situation in Panama.—The report of the yellow fever situation in Panama since September 15, which has just been received at the offices of the Isthmian Canal Commission, shows that there were but two cases of the disease during that period. One was an Italian non-employee and the other an American employee, who died. No cases have been reported since September 20. During the entire month of September there were nine cases, seven of which were among foreign non-employees.

Lunacy Grows among Negroes.—Dr. W. F. Drewery, superintendent of the Central State Hospital, at Petersburg, Va., has submitted his annual report,

which contains interesting statistics regarding the alarming increase of insanity among the negroes of the State. "Never before in the history of the care of the insane in this State," says the superintendent, "have so many negroes been adjudged insane. The figures show unmistakable evidence of increase in insanity and mental degeneracy in the negro race. It would take too long a chapter to attempt to explain all the causes to which the increase of insanity in the colored population may be due. The patients we get do not seem to owe their mental downfall to excessive brain work, but rather to physical conditions and degeneracy, to which their lax, indolent, unhygienic and immoral methods of living naturally lead. Heredity influences, too, are gradually asserting themselves as a not insignificant factor in producing additional physical and mental defects in the race. The number of patients sent to the hospital during the year was 170 more than the previous year, showing an increase of about 50 per cent. The number in the hospital was 1,449, or 115 greater than the year before. The smallest number under care at any one time was 1,101 and the largest, 1,305. The number present at the end of the year was 1,181, or 80 over the previous year."

The Tuberculosis Congress.—At the tuberculosis congress, on October 9, Prof. Grancher, one of the leading French authorities, declared that consumption was one of the most easily cured diseases if taken in time. It was a mistake, he said, to wait until the presence of the bacillus was established. Immediately a physician discovered a permanent abnormal sound localized at the top of the lung when the patient drew a breath he ought to diagnose the trouble as tuberculosis. Sounding was the best and simplest test. It was far superior to radioscopic examination, in which he had little confidence. Ambassador McCormick has received a telegram from Secretary of State Root suggesting that he inform the American delegates to the congress that it is hoped it will consider the United States a suitable place for its next meeting, and the President will be glad to receive its members. The question was to be submitted at the final sitting on October 7. The Paris correspondent of the *Times*, writing on October 5, says there is every reason to anticipate a cordial and unanimous acceptance of the invitation communicated by the American delegates to the bureau of the Tuberculosis Congress to hold the next congress in the United States, particularly in view of the fact that it is made in the name of President Roosevelt. That is certainly the feeling of the British and French delegates, who have the highest admiration for the President as a peacemaker as well as for the excellent example he has given the American people in the struggle against tuberculosis.

The Ant and Formic Acid.—Formic acid, as stated in *The Lancet* of September 23, has been successfully exhibited in the treatment of tremors, and has long been employed on the continent as a stimulant in cases of gout and paralysis. The acid was obtained originally from the *formica rubra*, or red ant, and a common method of administering it was at one time by means of the "ant-bath." This last was obtained by boiling crushed ants or whole ant-hills, to the steam of which the diseased limb was exposed. How far this treatment was based on reason or on signaturist tradition it is impossible to infer. Medieval or savage pharmacutists seem to have argued that because the ant is the strongest of insects and can carry weights some ten or twelve times as heavy as itself a medicine derived

from it must of necessity impart muscular force to those taking a dose of it. Arguing on these lines the French *Figaro* published a year or two ago a long and ingenious article in which no trace of *persiflage* was discoverable and where it was demonstrated that if human beings were only to dose themselves with sufficient quantities of formic acid they would soon resemble the ants in prodigious feats of strength and endurance. Two French medical men were reported to have experimented on themselves with the results in the way of ant-like prowess that fairly beggared description. An "elixir" sold in bottles was the "practical" outcome of these investigations. It is probably selling in France to-day. The writer in the *Figaro* was so carried away by his theme that he foretold the complete revolution of industry and all social relations in a world where who-soever desired might be ten times stronger than his neighbor. Work, of course, would become the merest bagatelle and vast longevity would follow in the train of reduced muscular output. It was an idea worthy of Mr. Wells. Certainly the ancient dictum "Go to the ant thou sluggard" has lost little of its old-time connotations.

Health of the Army.—The health of the army has shown a steady improvement during the fiscal year ended June 30, according to the annual report of Surgeon-General O'Reilly. During the fiscal year there were 406 deaths from all causes, or 6.75 a thousand. Compared with 8.64 for the previous year and 17.93 for the years 1898-1902 the showing is considered very good. The percentage of men constantly non-effective also showed a material decrease. Pneumonia was the greatest cause of death, the death rate per thousand being 0.65. Tuberculosis was second with 0.37, and typhoid fever next with 0.33. During the year there were 206 cases of gunshot wounds, 44 of which proved fatal. Twenty-one men were killed in action, 45 were drowned, 27 committed suicide, and 10 lost their lives through homicide. Among the native troops in the Philippines, 56 enlisted men were killed and 25 wounded. The unusual proportion of killed to wounded, there being fewer wounded than killed, is explained by the fact that 47 of the killed were victims of hand-to-hand fighting with edged weapons. The various diseases in the army are discussed at length. Regarding typhoid fever it is shown that Fort Leavenworth, with fifty-three cases, led all army posts and reservations. The outbreak of beriberi among the Philippines scouts at the St. Louis exposition resulted in fifty-nine cases, four of which were fatal. There was but one case of yellow fever reported, at Fort Brown, Texas. At Fort Stevens, Ga., there is a case of leprosy, the only one in the army. The Surgeon-General says that the result of operations on wounded men shows that the army has a corps of capable surgeons, there being but two deaths which could be attributed thereto. The Engineer Corps had the highest rate per thousand for disease, the cavalry next and the Ordnance Department the lowest. For death rate from disease the Signal Corps stood the highest.

The Negro in the North.—A recent issue of *Charities* is a special number, devoted entirely to a study of the negro in the cities of the North. Its purpose is to bring the facts relative to the condition of negroes in the cities before the public, and with the aid of Booker T. Washington, Dr. Dubois, of Atlanta University, and other leaders of the race, and of such agencies as Greenwich House in this city, it has been possible to gather a great mass of

material. Booker T. Washington believes that the place for the negro is in the South, and he tells why he thinks so. He writes: "I do not believe the masses of colored people are yet fitted to survive and prosper in the great Northern cities to which so many of them are crowding. The temptations are too great, and the competition with the foreign population, with which they here come in contact, is too fierce."

In describing the negroes' struggle for existence in Northern cities another writer says that the negroes' difficulties are accurately reflected in the high death rates, especially the frightful mortality of the negro child. Roughly, in proportion to their respective numbers, for one white child in 1900 six negroes died from diphtheria and croup. Other diseases of childhood kill from two to four times as many negroes as whites. That the great majority of negroes in Manhattan live in poverty is the conclusion of Miss Mary White Ovington, who has studied negro conditions in this city for a year and a half. She points out that in the districts the negroes are forced to live they see much that is base in the dominant race. Choosing at random fifty families living in the Tenderloin Miss Ovington found that 70 per cent. of the mothers were known to be moral by those charitable workers who for many years had been in close touch with them. These people, Miss Ovington says, live a life apart from the roughness and vileness around them, but close to their church and their children.

Charities pays considerable attention to the bringing of negro women from their homes in the South to the North, and the abuses that result. The Southern States, especially Virginia and Georgia, are honeycombed with employment agency sharps who use every sort of an inducement to get colored girls to leave their homes, promising good wages, easy work and good times. These dupes of the employment agency sign a contract agreeing to work one or two months for nothing after their arrival. They sign over their personal belongings to the employment agent, and when their little store of money is gone and no work is found for them they fall into evil life.

Typhoid Fever in New York.—In commenting on the recent conference of health officers in Albany, the *Times* says in part: Some statistics of startling interest respecting the prevalence of typhoid fever in New York were presented by Dr. Eugene Porter, of the State Department of Health. Of these the fact of greatest immediate importance is that since the beginning of 1905 sixty thousand persons residing in this State have been attacked by typhoid fever and that the deaths from this cause in New York City alone have exceeded five hundred. This means that in New York City the number of persons attacked by typhoid since the beginning of 1905 somewhat exceeds thirty thousand. Allowing for everything, it is scarcely probable that with modern methods of treatment and hospitals open to rich and poor alike, the local typhoid mortality exceeds 5 per cent. It should be much lower. Dr. Porter's explanation of the causes of this high mortality from a disease which experience has shown to be entirely controllable is undoubtedly correct. He shows that "for a series of years an increasing volume of sewage has been poured into our streams, until practically all are contaminated, and many of them are little better than open sewers." From these streams the water supplies of our cities and towns are drawn. Sewage is never wholly free from the deadly poison of typhoid. How-

ever great the volume of water into which this mischievous contagion is diluted, it multiplies rapidly, and only under exceptional conditions is it eliminated by natural causes. Filtration accomplishes much in the way of purification and has great value; but it does not make entirely safe water thus polluted, and the reform demanded by the conditions to which Dr. Porter calls attention is one which local communities cannot initiate. This fact seems to have made itself dimly apparent to the State sanitary authorities at Albany. It is probably never too late to begin a great and necessary reform; but the announcement that a beginning is to be made after the typhoid sickness rate has attained the proportions of some seven thousand cases a month in a population of probably less than eight millions suggests the pertinent inquiry: Why was it not begun long ago? The facts pointed out by Dr. Porter are not new discoveries. They have been known for at least half a century to every student of State medicine. Indeed, they are the commonplaces of elementary sanitary science. Why has our State Board of Health, if invested with the power to do what Dr. Porter promises, not done it this dozen years past? What its negligence has cost the State would exceed manifold the cost of the most comprehensive measures for the protection of the watercourses of the State.

The next step in the progress of civilization will be away from the present method of imitating in modern sanitary practice the example of Hercules in the cleansing of the Augean stables. When the fact is realized that for most of our communities nothing but dilute sewage is available as drinking water a great reform will be possible, and probably not until then.

OBITUARY.

Dr. JOSEPH B. JONES, who was prominent for many years as a physician and in political life in Brooklyn, died on October 9 at his home, 372 Carlton Avenue, Brooklyn. He was born in New York City in 1828, and was graduated from Columbia College Medical School. Dr. Jones had been connected with the Brooklyn City Dispensary since its organization. He was for two terms a Coroner of Kings County and had also held the office of Health Commissioner.

JOHN ARVID OUCHTERLONY died in Louisville, Ky., on October 9. He was born in Sweden in 1838, came to America in 1859, and in 1861 joined the United States army, serving nearly four years. He moved to Louisville in 1865, and has since resided here. In 1891 King Oscar of Sweden made him a Knight of the Polar Star, and in 1894 Pope Leo made him a Knight of the Order of St. Gregory. Dr. Ouchterlony was a member of the Kentucky State Board of Health, and later Health Officer for Louisville.

CORRESPONDENCE.

AN APPEAL.

To Our Fellow Members of the New York State Medical Association:

At the approaching annual meeting the opportunity will be presented for us to take definite and final action in consummation of the amalgamation agreement between the two State medical organizations. Our officers have arranged a method of procedure in accordance with the requirements of the law and the dictates of the courts. There is nothing now to prevent union except indifference on the part of members of the Association.

We therefore appeal to all members of the Association who have at heart the best interests of the medical

profession of our Empire State to attend the business meeting called for 10 o'clock, Tuesday, October 17, and come prepared to express their wishes, by ballot, in no uncertain way, in support of every act and resolution favoring the union between the two State medical bodies.

(Signed)

CHARLES G. STOCKTON, M.D.,
DE LANCEY ROCHESTER, M.D.,
ROBERT ABBE, M.D.,
W. GILMAN THOMPSON, M.D.,
REGINALD H. SAYRE, M.D.,
JOHN A. WYETH, M.D.,
FRANCIS J. QUINLAN, M.D.,
HERMAN J. BOLDT, M.D.,
A. J. MCCOSH, M.D.,
EDWARD G. JANEWAY, M.D.,
A. A. SMITH, M.D.,
JAMES P. TUTTLE, M.D.,
CHAS. STEDMAN BULL, M.D.,
D. BRYSON DELAVAN, M.D.,
W. M. POLK, M.D.,
JOSEPH D. BRYANT, M.D.,
JOHN F. ERDMANN, M.D.

NEW YORK, October 12, 1905.

SOCIETY PROCEEDINGS.

THE HARVEY SOCIETY.

The first lecture delivered at the New York Academy of Medicine was by Professor Hans Meyer, of the University of Vienna, Saturday, October 7, at 8.30 P.M.

Professor Meyer took for the subject of his discourse the theory of narcosis, in which he has made extensive and fruitful original investigations. He said in brief that this peculiar effect upon the central nervous system, by which a number of drugs produce narcosis, is one of the most interesting in the whole realm of physiological chemistry. Unfortunately, an absolutely definite answer cannot be given to it as yet because we do not know enough about the institution of the body and its cells. The chemistry of protoplasm, in spite of all investigation, still remains a mystery.

Groups of Substances with Similar Effects.—Prof. Meyer said that a number of investigations had been made with the idea of showing that certain groups of drugs having parallel effects did so because of like chemical action. Years ago Brown and Fraser had shown that the alkaloids had corresponding effects because of certain correspondences in their composition. Whenever ammonia is present in an alkaloid it has a distant tendency to act like the American Indian arrow poison, known as curare, and this is evidently due to the chemical effect produced by the special combination, of which these substances are composed. Hofmeister had made a like investigation with regard to the neutral salts the most familiar of which are kitchen or common salt and Glauber's salts. He found that their community of action was due to the common possession of the power to take water out of the tissues.

Narcotics.—Professor Meyer said that the idea of many investigators had been to find some such common quality as was the case in these other groups among the narcotizing substances. There are, however, a large number of narcotics, all the esters and ethers, as well as the alcohols and ketones, have this special power. Chemically these

substances are often quite different from one another, yet they all have the effect of producing inhibition of the higher powers situated in the cerebrum, of quieting the sensorium, and finally, if continued too long, of acting on the medulla and so causing death. These substances have the same effect on the peripheral nerves when directly applied to them. They have the same effect even upon other forms of protoplasm. Plants may be set asleep by them, and even the sensitive plant may be made to lose its tendency to curl up when touched, which is sometimes spoken of as a reflex act, though not really such.

Explanations of Narcosis.—From the very first employment of narcotics or anesthetics it was realized that the main effect was upon the brain. Very soon after the introduction of ether an attempt was made to explain its action. The first investigators were in England, and they thought that they found a tendency for fat in the brain to be dissolved by the ether. If death took place from narcosis, or shortly after it, ether extracted less substances from the brain than it did from that of a normal individual, while it extracted more fat from the liver of the narcotized person than from that of the ordinary person. It was thought then that ether dissolved fat from the brain that this found its way into the circulation and was eliminated in the liver. The fact that all persons get over narcosis readily and completely without any after-effects seems to stamp this theory as false. No gross changes can have taken place in the brain when recovery is so complete and immediate. Yet it is curious that these first investigators seem to have hit upon a portion of the true explanation of narcosis. There was something right in their theory and their observations.

Other Explanations.—Other explanations were soon offered, some of them along the same line. Hermann found that ether dissolved the red blood corpuscles. These contain lecithin; hence he came to the idea that all lecithin solvents act as narcotics. It is true that all the methane narcotics have this property in varying degrees. For a time it was asserted that substances were narcotics in proportion to their power of dissolving fat. This was not true, however, in its entirety. It must not be forgotten that there are many substances in the body besides fat. Any fat dissolving material that enters the body is brought in contact with many forms of organic substances. Some of the compounds that dissolve fat have a great affinity for water, and as a large proportion of the human body is made up of water their dilution by this may weaken their fat dissolving power, and consequently their action upon the brain and their capacity to narcotize. This proved to be the crux of the law that would make fat solvency correspond with narcotic power.

Another Theory.—The distinguished Professor Richet, of Paris, as a result of these considerations with regard to the weakening power upon narcotics of water within the body suggested as a physiological rule that a narcotic is stronger as it is less soluble in water. This is as one-sided, however, as the preceding rule. The truth lies some place between the theories of German and French observers. The more fat a substance will dissolve, while at the same time it is less soluble in water, the more power has it as a narcotic. Accepting this as a working hypothesis, Professor Meyer undertook a series of experiments to determine the solvency coefficient of various narcotic substances as regards fats and

water. The materials taken for comparative purposes were olive oil and distilled water. In this way the coefficient of solvency could be obtained. Besides this an attempt was made experimentally to determine how much of a particular substance was necessary in order to bring about narcosis. For this purpose tadpoles were used and were placed in different solutions of the various substances until a solution was found just strong enough to maintain them in a narcotized condition. The tadpoles were placed directly in the solution.

Professor Meyer called attention to a table which brought out the fact that the higher the partition coefficient as regards solvency of fat and water in any particular substance the less concentration of its solution was needed to bring about and maintain narcosis. For instance, salicylamide with a partition coefficient of 22.0 needs a concentration of only 0.0008 (the standard molecular concentration being a gram to a liter) in order to maintain anesthesia. Trional comes next, and tetronal immediately follows it in the heights of its partition coefficient, and they, too, require very little concentration of solution to bring about narcosis. With some few slight exceptions the rule holds that as the partition coefficient grows less the amount of the substance needed to maintain narcosis becomes distinctly greater.

Effects of Temperature.—The partition coefficient differs somewhat at different temperatures. It can readily be understood that many substances when warm will dissolve more fat than when cold; not all substances, however, follow this rule. Some rise in fat solvency with the temperature, but some have directly the opposite quality. Six substances were carefully investigated with regard to this question of variation with temperature. All substances that increased in fat solvency with temperature had a correspondingly greater narcotizing power also at the higher temperature. On the contrary, substances that lost in fat solvency with a rising temperature lost also in anesthetic effect. Reduction of temperature, bringing about differences in fat solvency, either of increase or decrease, had a corresponding effect upon narcotic power. Narcotized animals could, by raising or lowering the temperature of the solutions in which they were kept, be made to wake or sleep according as variations of temperature changed the fat and water solvency; that is, changed the partition coefficient. This, of course, is a strong confirmation of the truth of the suggested law worked out from a different standpoint and with data from those from which it was originally obtained.

Physical Effect.—It seems evident that narcotism is produced as a physical effect. Certain it is that some substances of the paraffine series are narcotic, and yet it is not because of their chemical action, since only very strong chemicals, such as concentrated sulphuric acid, effect them; the theory, therefore, that makes the power of narcotics depend on solvency would seem to be correct by analogy at least, since this is more a physical than a chemical effect.

At one time Baumann introduced another theory to general attention. He was the first to make trional and sulphonal. He considered that when the sulphones are not broken up in bodies resembling these, no narcotic effect is produced. This is not true, however, though the demonstration of the lack of evidence for it is thus far deceiving.

Theory of Narcosis.—As the result of the principles that have been discussed this evening, it is evident that there are fats (lipoids) in the brain cells of the higher animals which are very important, at least as regards the operations of sensation. It is as if there were an emulsion containing lecithin or similar substances, the disturbance of which by the presence of a fat dissolving substance causes a break in the function of the cells. The solution of the fat, or at least its taking out of the compound in which it was before, disturbs the equilibrium of the cell, and its ordinary physiological function is completely suppressed for a time at least.

Lipoids.—These lipoids materials, as they have been called because of their fat containing quality, exist in every cell. They are bound up with the albumin and other components of the protoplasm. Every living cell contains them; even plant cells are not free from them. All cells that contain lecithin, no matter how low their origin, can be narcotized. Morphine seems to disturb some other substance within the cell, since its effect can be noticed for such a long time after it has been taken. It will be an interesting subject for investigation to discover just what the series of alkaloids related to morphine affect in producing their physiological action. Recently, here in New York, Dr. Meltzer has shown that certain of the magnesium salts produce narcotic effect. It is evident, however, that this narcotism is due to the action of these drugs upon some other substance than is the case either with the ordinary anesthetics or with morphine. All of these substances, however, break in some way the essential ring of material on which cell function depends and thus produce narcotism.

Practical Applications.—It is always the custom to look for the practical in a lecture of this kind. The question, however, what is the use, is not always the best test for scientific progress. There have been some very decided advantages derived from studies made along the lines I have suggested. The acid amide salts have been introduced as new materials for the production of sleep, and further advance along this line can be looked for. The partition coefficient and its results will be held in the further investigation of narcotizing substances.

Dr. Meyer then thanked the audience for its kind attention and was applauded very vigorously.

Dr. Jacobi said that he was proud to have lived to the time when there was no longer English and French and German medicine, but just medicine; hence, the New York Academy of Medicine was ready to welcome the Harvey Society and to congratulate it on its first successful effort. He then thanked Professor Meyer for having come such a long distance, though it is fortunate that the world grows ever smaller and the ocean ever less large.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-fifth Annual Meeting, held at Scranton, Pa., September 26, 27 and 28, 1905.

SECOND DAY—SEPTEMBER 27TH—(Continued.)

(Continued from Page 715.)

Protective Inoculation Against Typhoid Fever.—Paper read by Dr. D. H. Bergey, of Philadelphia. After reviewing some of the work that has been done in this direction he stated the best method of protective inoculation is that of Pfeiffer and Colley. In this method the bacteria are grown on agar and then suspended in salt solution, after which the salt solution is heated to

kill the bacteria. The injections are begun in small doses and then increasing doses. The protective inoculation brings about a condition seen in convalescent typhoid fever patients. The local reaction should appear within twenty-four hours. With the systemic disturbances there is a rise in the temperature to from 0.5 to 3° F., headache, malaise, vomiting and herpes; occasionally albuminuria is present. The second injection is followed by milder symptoms. He mentioned the method of Wright for protective inoculation, but he believes that of Pfeiffer and Colley is superior.

Uterine Curettage, Its Indications and Contraindications; Its Technic and the Complications which May Attend and Follow the Procedure and Their Proper Treatment.—Paper read by Dr. E. E. Montgomery, of Philadelphia. In his opinion much depends upon the man using the curette. It should be used in chronic endometritis, in profuse uterine discharge, in protruding submucous polyps, in carcinoma for scraping to study under the microscope, dysmenorrhea, and retention of embryonal particles. The curette is contraindicated in acute endometritis, in intrauterine myoma and in malignant disease, except to obtain particles for microscopic study, and then it should be followed by the cautery. In some cases he prefers to use his finger, instead of the curette. If the cervical canal is not freely open, the dilators should be applied; to dilate the cervical canal he prefers the graduated metal bougies to the bar dilators, which instruments he regards as dangerous. While admitting that the uterus may be perforated with the graduated bougies, he holds that danger is minimized if the instruments are handled with care. Montgomery is inclined to use a sharp curette because the laceration of the organ is much less than with the blunt instrument, and it will remove more easily the parts desired. Perforation of a non-septic uterus should not be a source of great danger.

Chronic Rheumatism.—This paper was read by Dr. Charles F. Painter, of Boston. (See a subsequent issue of MEDICAL NEWS.)

Technic Employed in the Last One Hundred Laparotomies with the View of Restricting the Employment of Drainage.—Paper read by Dr. L. J. Hammond, of Philadelphia. He gave a detailed description of the technic employed in the operations. In cases in which there is a local area of suppuration he applied bichloride of mercury, 1 to 500, directly to the area by means of a probe wound with gauze. He is very emphatic in his view concerning drainage. He says this is not to be employed.

In opening the discussion on this paper, Dr. J. G. Clark, of Philadelphia, maintained that drainage should be avoided if possible. Dr. J. M. Baldy, of Philadelphia, takes exception to Dr. Hammond's use of bichloride; he insists that no chemical whatever should be placed in the abdominal cavity. Dr. Ernest Laplace, of Philadelphia, holds that in regard to drainage hard and fast rules cannot be laid down. Each case must be considered separate; occasionally it is absolutely necessary to drain, at other times it would be the height of folly; if in doubt, drain.

Management of Pus Cases in Abdominal Surgery.—Dr. Reed Burns, of Scranton, read this paper. He discussed the various lesions that may give rise to suppuration of the peritoneum. In the remarks made upon the treatment of the lesions, he stated that in all his cases of empyema of the gall-bladder he removed the organ; and that when dealing with a suppurating salpingitis he maintained that imme-

diately operation should be done. When he has pus free in the abdominal cavity he makes a median incision, flushes the cavity with salt solution or with sterile water at 115° F., and then removes the excess of the irrigating fluid. Of the twenty-seven cases where he found pus in the peritoneal cavity, twenty-four were consecutive to rupture of the appendix and one due to perforation of the stomach; of the twenty-seven, four died. Where the pus was localized, his mortality was two per cent.

THIRD DAY—SEPTEMBER 27TH.

Observations on Cancer of the Head and Neck; with an Analysis of 110 Operative Cases.—Dr. G. W. Crile, of Cleveland, O., read this paper. From an extended search of the literature, he concludes that cancer emboli are infrequent. In taking up his work he lays great stress upon the importance of complete operation. If this procedure is not done thoroughly, it stimulates the growth and shortens life. In doing the radical operation, he advocates the removal of the lymph nodes, *en bloc*, he avoids handling the carcinomatous tissue, and retracts on sound tissue and never on the diseased. In doing operation on the larynx for carcinoma he advises a preliminary tracheotomy. Tongue operations had better be done in two stages. In such procedures Dr. Crile introduces a rubber tube through each nostril to a point opposite the epiglottis and then packs the throat with gauze to prevent the blood from running in the larynx, and to avoid inspiration pneumonia. By this apparatus he can get the etherizer out of the field of operation. He notes that it is well to cocaineize the pharynx before introducing the rubber tubes. Hemorrhage is best controlled by temporary ligation of either the external or the common carotid, but even with the external carotid ligated he has seen severe pulsating hemorrhage, which he believed came from the opposite side of the body. Permanent ligation of the common carotid is not looked upon favorably because of the brain softening which results. A partial upright position of the patient assists in controlling the hemorrhage. Prevention of hemorrhage and laceration of the tissue avoid to a certain extent collapse. When his wound is large the exposed parts are covered with warm compresses. Dr. Crile divides the cases upon which he operated into two groups. In the first series are those in which the lymph nodes were not removed, the carcinomatous tissue was handled; the results were unfavorable. In the second series there were four times as many cases cured as in the first series. Forty-six of the cases of the second series have not been operated upon for three and there is no recurrence. In this series the mortality was 10 per cent., but this includes some of the cases of the first group. He concludes that every case of carcinoma is curable at one time, and advises in every patient suffering with cancer of the head or neck, a radical operation.

Dr. R. H. M. Dawbarn, of New York, in the discussion, stated that in operations about the neck his incisions are so made that they will show very little. The first begins over the mastoid process, then passes along the border of the hair, then along the clavicle to the sternocleidomastoid muscle. The second cut is made along the under margin of the lower jaw. He does not hesitate to cut the sternocleidomastoid muscle. Death in these operations results from hemorrhage, or from shock, from inspiration pneumonia and from the long-continued operations. To

prevent hemorrhage he produces an anemia of the head and neck by cording the lower extremities for ten minutes and then transferring the cords to the upper extremities where they remain for ten minutes, when they are again transferred to the lower limbs. He does not fear gangrene because the shortest time in which this condition has been produced was one hour. When anemia is produced in the way indicated he holds that after complete anesthesia has been effected, very little, if any, ether is needed. After the operation he elevates the foot of the bed, and when the patient is able to swallow ice water without coughing he is allowed to sit up. Occasionally, he says, he does these operations in two stages, permitting several days to intervene. To stop hemorrhage he applies boiling water to the part by means of a gauze sponge. Sloughing, as result of this procedure, has not occurred in his practice.

A New Intestinal Bobbin.—This was exhibited by Dr. J. G. Clark, of Philadelphia. The instrument is composed of four pieces of metal. One piece is shaped like a rectangular-grooved pulley, and the other three, when in position, form a similar pulley. To put the instrument in use, the pulleys are introduced into the lumen of the bowel, one in each end, then the intestine is tied over each half of the bobbin after which the bobbins are clamped together. The peritoneum is now sutured. When the bobbin sloughs out it falls into the lumen of the gut in pieces. He has carried out experiments with the instruments on dogs, and found that there is no puckering of the intestine.

Dr. W. L. Rodman, of Philadelphia, in the discussion, held that a mechanical device of any kind in the intestines is prone to give rise to intestinal narrowing. Dr. H. M. Dawbarn, of New York City, is of the opinion that the direct suture cannot be replaced by any mechanical device, and maintains that since the difference between the human and dog intestine is so great, experiments on the latter animals are of no significance. Dr. Reed Burns, of Scranton, inclines to the use of the continued suture, except in certain cases; then he uses the Murphy button.

Wandering Gall-Stones.—Paper read by Dr. W. L. Estes, of South Bethlehem. (See a subsequent issue of MEDICAL NEWS.)

Decompressive Operation in Inoperable Brain Tumors.—Dr. H. W. Cushing, of Baltimore, Md., read this paper. He stated that although a tumor may not be accessible, operation can be performed just the same with relief for the patient. The pain which causes these patients so much suffering is due to the pressure on the dura where the sensory nerves are situated. The so-called "optic neuritis" is really optic atrophy with a secondary round-cell infiltration incident to the stasis; the vomiting is due to intracranial pressure. He notes that nature may, by causing pressure atrophy of the bone, bring about relief to the patient. He has seen three such instances. In some of these cases the relief is obtained by separating the sutures, but such conditions occur only late in the disease. The surgeon, by removing a part of the cranium, can relieve the symptoms and prevent the vomiting and the choke disk, but the objection to these methods of treatment is that the protruding brain loses its function, and paralysis ensue if the cranial opening is made in an easily accessible part of the head. He suggested two areas where the protruding brain is protected by the overlying muscle. The first region mentioned

was beneath the temporal muscle. The incision in the skin is made over the attachment of the temporal muscle after which the muscle is splint and then the bone is opened, the dura excised after which the muscle is closed with sutures. This region is utilized when the tumor is above the tentorium; when the growth is below this structure the opening is made in the suboccipital region and protected with the muscles in this area.

Dr. R. H. M. Dawbarn, in the discussion, spoke of the use of celluloid plates and of making osteoplastic flaps, but allowing the bone to remain so that it will not unite and will give to the constantly increasing pressure.

Exhibition of a Clinical Case for Diagnosis.—Dr. Thomas W. Kay, of Scranton, brought the patient before the Society. Patient is seven years old, and the disease was first observed when the child was three years old. The eyes are extremely prominent and appear to be dropping out of the orbits. The inferior maxilla is absorbed, so that the chin is lost. After the jaw-bone disappeared, the right parietal began to waste, and then the left parietal, and finally the temporal bone. The circumference of the head horizontally is 53 cm. The child at one time passed 27 liters of urine, but now he passes 23 liters in the twenty-four hours.

In discussion of this case Dr. H. W. Cushing suggested that the boy may be suffering with a tumor of the pituitary body, although he stated that it would be difficult to give a diagnosis of such a case in an off-hand manner. Dr. T. H. Weisenberg, of Philadelphia, suggested that it was internal hydrocephalus, but thought the history was incomplete. In the discussion of Dr. Cushing's paper he declared that the osteoplastic flap which they use in Philadelphia may account for the poor results they have been getting in these palliative operations.

Direct Fixation of Fractures.—Paper read by Dr. J. B. Roberts, of Philadelphia. He said that there are a few cases that can be treated with the method suggested. He uses either wire nails or staples. Dr. G. W. Guthrie, of Wilkesbarre, told of how he treated a fracture of the olecranon by driving a nail through the fragment into the bone; the nail was removed at the end of a week. There was no loss of function; the patient had perfect flexion and extension. He holds that by this method less callus is formed. Dr. Thomson, of Scranton, related the history of a case in whom the fracture had existed for three months, and in whom he obtained union by directed fixation by means of a nail. Dr. Willard, of Philadelphia, believes more cases can be treated by this method than is generally held. He maintains that one form of fracture cannot be treated always by the use of the same material.

The Question of Lowered Gastric Secretion.—Dr. C. G. Stockton, of Buffalo, read this paper. The view recently advanced that the gastric secretion can be dispensed with is not well entertained in Dr. Stockton's mind; he states that the presence of the gastric juice in the duodenum stimulates indirectly the pancreas, and it regulates the movements of the stomach. He spoke of a condition where the gastric juice is absent without apparent cause. Depression, neurasthenia and hysteria produce suppression of this secretion; diseases of the brain cord and arteriosclerosis are factors in bringing about a cessation in the secretion of the stomach. The absence of the hydrochloric acid in acute inflammatory condition of the stomach is a wise provision, as it would cause

considerable irritation to the mucose. Insufficient gastric juice at times produces diarrhea and particles of undigested food, especially proteids, are found in the stools. He holds that it is injudicious to give hydrochloric acid in carcinoma of the stomach, as the acid is a source of irritation. Poor gastric digestion, in his opinion, will institute poor intestinal digestion. No two individuals may be able to endure the same amount of hydrochloric acid, so that there is no standard as to the amount of acid necessary for the digestion in all people. Dr. Stockton holds that the stomach can be educated to do substantial work; therefore, a mixed diet should be given and not to be taken in small quantities at frequent intervals, although in some instances it is necessary to give the meals frequently. He is inclined to think that a more normal digestion is obtained with pyloroplasty than with gastro-enterostomy.

Surgical Treatment of Cardiospasm.—Paper read by Dr. Edward Martin, of Philadelphia. This condition may be due to traumatism, inflammatory lesions of the mediastinum, tumors of the cardia of the stomach and gastritis. There is an acute and a chronic cardiospasm. With the chronic form there is nearly always associated dilatation of the esophagus. These patients are in the habit of throwing up the food which has recently been taken without the slightest effort—the so-called "ruminants." Cardiac cancer and diverticulum can be eliminated with the esophagoscope. Many of the patients must be fed by means of the stomach tube. His was a very obstinate one, and it was found necessary to open the stomach and dilate the cardiac opening of the stomach with the fingers; two fingers passed through easily, but the third with difficulty. Since the operation, nine months ago, the patient gained forty pounds.

Symptomatology and Diagnosis of Cancer of the Stomach.—Paper read by Dr. J. J. Gilbride, of Philadelphia. He said, the early symptom of cancer of the stomach is like gastritis; in some cases the onset is sudden. At the cardia of the stomach the tumor gives rise to symptoms like those produced by a foreign body. The fact that the patient looks well does not in any way exclude carcinoma, in his opinion. He finds it necessary to examine the gastric contents several times; one examination he regards as insufficient. In carcinoma of the stomach the quantity of hydrochloric acid decreases as the growth develops, but it may in some cases be present throughout the entire disease. The presence of lactic acid in the stomach when taken in conjunction with the other data will serve as an aid in the diagnosis. The washings of the stomach should be examined closely to determine the presence of tissue that might give a clue to the presence of a growth.

Gastro-enterostomy: Its Indications and Its Technique.—Paper read by Dr. W. L. Rodman, of Philadelphia. As indication for this operation he gives pyloric spasm, cancer of the pylorus, benign stenosis and hemorrhage requiring the stomach to be emptied quickly. The objection to the anterior gastro-enterostomy are pressure on the colon, vicious vomiting and the food is not acted upon by the most important part of the intestinal canal. He advocates the posterior gastrojejunostomy; it is necessary, in doing this operation, to make as short a loop as possible, in order to avoid the vicious vomiting. The technic he gave is based upon the operation

devised by Munyon and slightly modified by Peterson.

Dr. Tyson, in the discussion, gave the history of two cases which came under his observation recently and upon whom gastrojejunostomy had been performed for gastric ulcer. The first case died of vicious vomiting. The second one got well. Dr. Roberts maintains that there is a good deal of difficulty in making the diagnosis of the condition for which gastrojejunostomy should be done, owing to the fact that one cannot always distinguish between the functional and organic disorders.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, held May 9, 1905.

The President, Joseph Fraenkel, M.D., in the Chair.

A Case of Acute Psychosis in the Course of Tabes: Presented by Dr. George H. Kirby.—The patient was a woman, fifty years old, whose family history was negative. Her early development had been normal. She was married at eighteen and had nine children, only three of whom were living. The last child was born fifteen years ago, and died at eighteen months. It was delicate from birth; its hair fell out, and it had some eye trouble which the doctor told her had been inherited. She questioned her husband at the time about a venereal disease, but he denied infection. She believed, however, that he had been treated shortly before this for some such disease. She had never seen any signs of disease on his body. She herself had had no sore, so far as she knew. She never became pregnant again. About eight years later, i.e., in 1899, she began to have headaches and shooting pains in the legs. In January, 1903, she suddenly became exhilarated and lively, claiming that she was going to make a thousand dollars a night singing, and that she could heal the sick and perform miracles; she spent money foolishly, and began to drink. During her periods of excitement she had several fainting spells, but no convulsions. About a month after the onset of these symptoms she was brought to Ward's Island. A physical examination at the time of her admission showed that the knee-jerks were absent; Argyll-Robertson pupil; some Romberg swaying, and greatly diminished pain sensibility below the knees. There was a fine, regular tremor of the tongue and hands; no speech defect.

The main facts in the mental status were the following: She was quiet, pleasant in manner, perfectly oriented in time and place; she answered questions freely, was connected in speech, but tremendously expansive. She claimed that she had wonderful powers, could speak every language, and possessed a beautiful voice. On other topics the patient talked well to the point, and gave a good general outline of her life. There was no memory defect for either recent or remote events, but in her statements of certain remote dates there were discrepancies which she only partially realized, and was not able to fully correct. Her attention was good; she retained names and numbers well. Calculation was somewhat defective for anything beyond simple problems, but this was probably due to the fact that she had received very little education. The first specimen of writing, taken on admission, showed a few errors in the spelling of difficult words, with an occasional poorly formed letter and rarely an extra stroke. Later, the writing was practically without defect. After she had been in the hospital two and a half months, she rather suddenly became clear mentally, gained full insight into her

previously expressed grandiose ideas, and her memory was without defect. The physical signs of tabes remained unchanged. She left the hospital on June 27, 1903. A few months after her return home, she began to suffer from pains in the back and a sensation of constriction about the waist. She had difficulty in walking, and her legs would suddenly give way; or, if she bent over, she was apt to fall on her face. Her tabetic symptoms had been progressive, with no return of the mental trouble. She was now helpless so far as locomotion went. The joints were relaxed. Deep sensibility was lost in both legs. Three months ago she had an enormously swollen hip, which appeared rather suddenly and without pain; this had recently disappeared. The patient showed a wonderful amount of energy and perseverance. By crawling about on the floor and having things put where she could get them, she did her own housework—cooking, washing, etc. Her memory remained good, and she retained a full insight of her previous mental attack.

A Progressive Lesion of the Root of the Fifth Nerve, Producing Motor, Sensory and Trophic Symptoms:—Dr. J. Ramsay Hunt presented this case. The patient was a man, fifty-nine years of age, who had been a submarine diver for forty years. At the age of twenty-five he had a chancre of doubtful nature. His present disease began about sixteen months ago, and consisted of disagreeable drawing sensations and paresthesia on the left side of the face, in the distribution of the left fifth nerve. With this there was an associated weakness of mastication on the same side, and a tendency to a constantly chewing motion, which still persisted. Since the onset up to the present time, the affection had been gradually progressive. On April 12, 1904, about four or five months after the onset of these symptoms, he descended 45 feet below the surface of a reservoir to extricate a fellow-diver who had been held there for forty-eight hours in the suction of a large water-pipe. Before reaching the bottom, however, a feeling of faintness came over him, and he gave the signal to be drawn up. On reaching the surface he was a little weak, but otherwise felt as usual. He did not lose consciousness, and returned home without noting any ill-effects from his seizure.

The next morning, on awakening, he could not see with the left eye, and an oculist who examined the interior of the eye said that there had been a hemorrhage. Quite by accident the same day, on attempting to use the telephone, he noticed that he could not hear in the left ear. There was not, nor had there been any tinnitus aurium. Within two weeks the sight returned to the left eye, and the hearing was restored to the left ear. The symptoms in the region of the left fifth nerve continued to increase, and were as follows on his admission to the Cornell Neurological Clinic, April 24, 1905: Paresthesia and weakness in the distribution of the left trifacial nerve, associated with an incomplete anesthesia to touch, pain and temperature in the same area, and including the mucous membrane of the eye, nose, tongue and mouth on the affected side. There was an absence of the conjunctival and corneal reflex on the left side. He had a drawing sensation in the left face and gums, a feeling of irritation in the left eye, and the left nostril did not feel free. He had at no time had pains in the left face. The sense of taste was diminished on the left side, and the sense of smell, although not very acute on either side, was also diminished on the left. The left face was smaller than the right, and this did not seem to be entirely explained by the wasting of the temporal and masseters, which were atrophied on the left side. A large section of

the frontalis muscle was wasted, and did not respond either to voluntary innervation or to electricity; and the tissues were thinner than on the unaffected side. The following oculo-pupillary symptom was present on the left side, i.e., slight ptosis, enophthalmus, and moderate dilatation of the pupil. An attempt to test the sweat secretion of the face by the administration of pilocarpin, and the tear secretion by irritation of the conjunctiva were negative. An ophthalmological examination made by Dr. J. H. Claiborne showed that the vision in the right eye was 20-30ths; in the left eye 20-50ths. The left disk was slightly pale and hazy, and a few old retinal hemorrhages were seen in the peripheral portion of the left retina. The ocular excursions were normal, with marked nystagmoid twitches on looking to the right and left, especially toward the left. He had had transient diplopia. The facial innervation was normal on the left side, with the exception that the upper outer half of the frontalis muscle did not respond at all either to innervation or the electrical tests. Electrical: The responses, both direct and indirect, to the galvanic and faradic currents were moderately diminished on the left side; no qualitative changes. The other cranial nerves, the gross motor power, the gait and station, the tendon, skin and pupillary reflexes were all negative. He had occasional vertiginous seizures, and suffered somewhat from insomnia, but no headaches.

Dr. Hunt said that the motor, sensory and trophic symptoms, without root pains, suggested a lesion of the nuclei of origin of the left fifth nerve. The nystagmus would also indicate pressure in the pons. The retinal hemorrhages must be regarded as an accidental complication. The temporary deafness, without tinnitus and with complete restoration of hearing, was more difficult of interpretation. Symptoms of hysteria were wanting. The nature of the process might only be conjectured; it was, however, progressive, and unassociated with general symptoms of tumor.

Dr. Charles L. Dana said he had had an opportunity to examine the case shown by Dr. Hunt, and it was certainly a very unique one. There seemed to be a progressive facial hemiatrophy, with progressive loss of function of the fifth nerve. There was a gradual wasting of the left side of the face, with a certain amount of motor loss, including also the motor branch of the fifth. There was no pain nor symptom of tumor. The condition could best be explained by some morbid or degenerative condition involving the nuclei of the fifth nerve, possibly a gliosis or a parasyphilitic lesion. The case might eventually be an aberrant form of tabes. Dr. Dana said he had seen some cases of tabes with these peculiar symptoms, but never with a progressive facial hemiatrophy developing in this artificial way.

A Case of Lead Poisoning, Probably Complicated by General Paralysis:—Reported by Dr. C. B. Dunlap, with specimens. The patient was a man, forty-seven years old, a painter, who was admitted to one of the State Hospitals on August 1, 1903, and died there seven months later. He had had painter's colic two years before admission, and had not been considered well since that time, though he had worked at odd jobs up to a week before entrance, at which time he left his boarding-house, was found wandering in the street in an aimless, bewildered way, was arrested and taken to the police station. A woman with whom he had boarded previous to this time said that he had talked to himself, and was nervous and restless, but otherwise apparently normal. The certificate stated that he was very forgetful, took things not his own, and talked in a silly way. At the hospital he appeared

to be much exhausted, dejected and apathetic. He did not know where he was, or the nature of the place, or the date, and gave the date of his own birth incorrectly. He claimed to hear a voice that he could not place. Examination showed sluggish reaction of the pupils to light and accommodation. The tongue was tremulous. There was partial paralysis of the left arm and hand, and a much weakened grip on that side. There was apparent wasting of the muscles of the thenar and hypothenar group; this wasting was also present on the right side, but less marked. The elbow, wrist and thumb reflexes were present on both sides. There was slightly diminished pain sensation on the ulnar side of the left arm. There was apparent wasting of the shoulder muscles, more marked on left side; also of the back and gluteal muscles. The anterior tibial muscles showed some weakening, more marked on the left side. The knee-jerks were exaggerated; the plantar reflexes diminished. No clonus; no Babinski; no sensory disturbance. His speech was mumbling, and so low that it was often difficult to understand him. He said he was tired and exhausted, and knew that he was sick, but did not know what was the matter. He saw "visions and spirits," and knew he was in the hospital because he "did wrong." A month after admission he thought that he had had some brain trouble on entrance, but that he had improved. In this he was correct. In November he complained of vague pains in his legs. The following month he became irritable and quarrelsome, and subsequently his gait became unsteady. The latter part of January he began to show marked incoordination, with great exaggeration of the patellar reflexes. The muscles of the legs, hands and tongue showed a marked tremor, and there was a peculiar trembling speech intonation, with failure to properly pronounce many words. By the middle of February the speech was worse, and the hands so ataxic and tremulous that he could not feed himself. Mentally, he was depressed and worried about himself. Four days before death the incoordination was jerky, almost spastic at times. He was almost hypersensitive to pain stimuli. Wasting of the interossei of the hands and feet and of the muscles generally was noted. All the muscles responded to the galvanic current, but the response was slight in the gastrocnemii and interossei. The day preceding his death the twitching of the muscle-groups was still more marked.

Autopsy.—There was hypostatic congestion of the lungs; the spleen was soft and somewhat enlarged. The pia arachnoid was thickened and water-logged. The brain showed considerable thickness and toughness of the pia of the convexity and base. The basal vessels were fairly thin; there was no atheroma. There were no gross lesions, and on section, the appearance was normal, with nothing to explain the partial paralysis of the left arm and hand. There were no granulations in the fourth ventricle. Microscopically, sections taken from the paracentral frontal cortex of the formalin hardened brain showed the typical changes found in general paralysis, namely, infiltration of the pia with lymphoid and plasma cells, infiltration of the walls of the cortical vessels with the same elements and with pigment and pigment-carrying cells. There was also marked apparent increase in vascularity of the cortex; also plain neuroglia reaction, seen in the first layer of the cortex, in the form of numerous spider cells; disorganization of the cortex layers, and numerous rod cells, such as Nissl and Alzheimer found to be quite constant in general paralysis, and unusual elsewhere. The walls of many of the larger cortex vessels were so packed with cellular elements and so broken up

that the different coats were indistinguishable, and the lumen was often hard to find. Marchi stains of the paracentral lobules showed a few myelin-sheaths which were broken up into rows of fat droplets, indicating a myelin decay of moderate degree. In sections of the spinal cord, from the cervical thoracic and lumbar regions, a diffuse myelin degeneration was evident in the anterior or posterior roots.

This case, Dr. Dunlap said, presented many difficulties, and was shown in order to call attention to the absence of sufficiently reported microscopical examinations in cases of lead encephalopathy. Quensel, in 1902, working on this problem, stated that lead poisoning was capable of producing "all transitions up to the typical paralytic findings." In the case under discussion, there was no history of syphilis, no ependymal granulations in the fourth ventricle, and the history was far from typical of general paralysis. The speaker said he did not wish to say that this was a case of lead poisoning with the typical anatomical changes of general paralysis. It might have been a case of the latter affection, in which the plumbism was merely a coincidence.

Dr. T. P. Prout said he could recall three toxic cases resembling that reported by Dr. Dunlap, but none of them came to autopsy. The toxic symptoms that were particularly prominent were decided somnolence and a passive depression. All three of those patients came from a certain factory in Paterson, N. J., where rubber was manufactured, and the speaker said he was inclined to attribute the toxemia to the noxious gases that were generated in the factory and inhaled by the men.

Case of Brain Neoplasm.—Dr. William B. Noyes presented this case. The patient was an Italian boy, eleven years old, whose family and previous personal history was negative. He was one of eight children, three of whom had died at birth. There was no history of syphilis or tuberculosis. Two months ago he developed some affection of the eyelids resembling ptosis; this was noticed first on the right side, and disappeared after a month upon the application of a leech behind the ear. The left eye became similarly affected a month after the appearance of the condition on the right side. He has complained of frequent headaches, located in the region of the right ear and right frontal region. Examination showed the following condition: A left facial paralysis of a peculiar type, with continuous spasm and twitching of the orbicularis palpebrarum, and blepharospasm. Reaction to Faradism absent. The tongue showed choreiform movements, or a fine fibrillary twitching. There was double-choked disk; no paralysis. The temperature usually ranged between 99° F. in the morning, and 100° or 101° F. in the evening. An internal strabismus subsequently developed, due apparently to overactivity of the internal rectus rather than to paralysis of the external rectus. Conjunctiva of the left eye was anesthetic, but there did not seem to be any other fifth nerve symptom. The left knee-jerk became exaggerated; there was some ataxia on standing with the eyes closed. The headaches recurred frequently, though yielding to ergot. The boy's general health remained good enough to permit him to play in the yard. Dr. Noyes said the case was regarded as one of cerebral neoplasm, located in the pons, or, according to the view of one observer, in the facial center in the cortex. The speaker said he believed it was located in the pons or cerebellum, and pressing on the pons because of the involvement of so many cranial nerves or their nuclei. The nature of the neoplasm was doubtful, excepting that the temperature strongly suggested

an abscess. The symptoms, however, seemed to be too distinctly limited to make an abscess probable.

Dr. William M. Leszynsky said that one of the interesting peculiarities of the case shown by Dr. Noyes was the left facial spasm, a certain degree of which was sometimes noted after a facial paralysis in older patients. From the history of Dr. Noyes' case, the speaker said he would be rather led to infer that the lesion, instead of being an actual neoplasm, was probably a disseminated one, or that the symptoms were due to a certain amount of basilar meningitis. It was hardly necessary to assume the presence of a neoplasm on account of the extensive choked disk, and he doubted whether any ophthalmologist who looked into the eye and found hemorrhages and choked disk could make the diagnosis of a neoplasm in contra-indication to a basilar meningitis.

Incomplete Transverse Myelitis from Exposure after Working in Caisson.—Dr. I. Abrahamson reported this case. M. G., male, a Russian laborer, came under observation on March 23, 1905. His family history was unimportant. Seven years ago the patient had typhoid fever. He had long been addicted to the excessive use of beer and cigarettes. Denied venereal infection. Up to fourteen months ago he worked for three hours daily in the Pike Street caisson. For three days previous to the onset of his present illness he had been dissipating and drinking heavily. He entered the exhaust-chamber feeling ill at ease, and remained there twenty minutes; while there he drank some hot coffee, and then went out into the rain without adequate protection, and reached his home soaked and cold. About ten minutes after leaving the exhaust-chamber he began to vomit, and was seized with violent pains in the epigastrium. He felt cold, with chilly sensations and numbness in the legs, especially the left. At the same time there was increasing weakness in the legs, so that within fifteen minutes after going to bed he was completely paralyzed from the umbilicus down. There was also retention of urine and feces, and marked dyspnea and palpitation. He was taken to the Gouverneur Hospital, where an examination revealed the above train of symptoms. After a month or so he slowly began to improve, but he still suffered from constipation and delayed urination. The gait was very spastic, with slight unsteadiness. The lesion in this case, Dr. Abrahamson said, was an incomplete transverse myelitis. Etiologically, the case illustrated the importance of alcoholism and exposure as predisposing to caisson myelitis, facts which numerous writers had already accentuated.

Case of Syringomyelia.—Also reported by Dr. Abrahamson. The patient was a Hungarian, forty-two years old; a tailor by occupation. He had five living children; one child had died of measles. His wife had never miscarried. His father died of tuberculosis; his mother of gangrene of the leg. He had five living sisters, who were all well. His family history was otherwise negative. The patient stated that he suffered from frequent attacks of bronchitis. He denied a venereal history. He used alcohol and tobacco in moderation. Eight years ago he slipped and fell on the ice, striking his back. He did not lose consciousness, but suffered severely from pain in the region of the thorax on both sides. He remained in bed one week, and then returned to work. For two years previous to his injury he had suffered from tingling and cold paresthesia in the left upper extremity, which he attributed to his habit of sleeping on the left side, resting his head on his hand, and thus compressing the left arm. The fall apparently aggravated his symptoms, and subsequently he noticed that his fingers were

numb, and that he could not feel objects distinctly with his left hand. With this hand he also failed to distinguish between hot and cold with certainty. The numbness and loss of sensation gradually extended to the left supraspinatus region, the occiput, and more recently to the submaxillary region, the left anterior chest, the left posterior thorax, and finally the right shoulder and arm were involved in the area of cold paresthesia. The patient complained of pain in the left interscapular region during the past eight months, and of a sense of constriction about the left chest, neck and occiput, as if the entire region was encased in plaster. In the neck he had a choking sensation, interfering with swallowing and speaking, and the left ear seemed to be blocked at times. Eight months ago, he noticed that the left upper extremity was weak, with wasting in the thenar region. Recently, fibrillary twitchings developed in this arm, with excessive perspiration in the left axilla. There was no rash; no joint changes; no trophic skin changes. There was some delay in urination, and the bowels were costive. There was a diminution of sexual potency. No diplopia; the other special senses were normal. The spinal column was scoliotic, with a convexity to the left in the cervical, and to the right in the dorsal region. In walking, the patient dragged the left leg somewhat; no Romberg.

Dr. Abrahamson said that the diagnosis of syringomyelia was easily inferred from the symptoms in this case. It was of special interest because of the fact that the upper border of sensory disturbances corresponded exactly to the sensory distribution of the first cervical segment on one side only, and also because of the very slow progress of the disease, especially in the motor areas.

Some Forms of Toxic Deliria.—Dr. George H. Kirby stated that, in addition to the alcoholic group of psychoses, a smaller number of cases were found in whom the mental disorder could be attributed with more or less certainty to some exogenous toxic substance. In the service of the Pathological Institute on Ward's Island a variety of such cases had been met with. These had included intoxications from the use of morphine, cocaine, the bromide salts, chloral, phenacetin, bromo-seltzer, and also from the excessive use of tea and coffee. Dr. Kirby then reported in detail three cases of toxic deliria. The first of these was due to the excessive and continuous use of phenacetin; the second to the use of chloral taken after alcoholic excesses, and the third to the use of bromides for the relief of insomnia. These cases all had certain symptoms in common. The patients were not clear as to their surroundings; they apprehended readily what was said to them, and were able to grasp, more or less, the simple relations which came under their own eyes, but they invariably mistook the situation in which they were placed. They were especially confused over the identity of persons, while time orientation suffered comparatively little. Consciousness regarding their own personality remained intact, and, with one exception, the patient's grasp on the remote past was clear. Perhaps the most striking symptom was the tendency to produce spontaneously detailed accounts of extraordinary occurrences, dream-like in character, and mostly of a terrifying and fearful content. Especially noteworthy was the fact that motor agitation and fear reactions might be entirely absent. Improvement in all the cases was gradual, and the belief in the delirious experiences remained some time after the patients were otherwise clear. The condition had to be differentiated from (1) delirium tremens; (2) general paralysis; (3) Korsakoff's psychosis; (4) the great

variety of symptom types in the infective-exhaustive group of psychoses.

Dr. Joseph Collins said the cases Dr. Kirby had related were not unlike some that the speaker was constantly seeing in the general medical wards of the City Hospital. They were cases that had given him a great deal of difficulty in classifying satisfactorily, save on a purely etiological basis, and latterly he had included them under the head of Korsakoff's syndrome. They were cases of subacute delirium, not of sufficient severity to cause them to be committed to an asylum, and were characterized by their possession of mistaken identity, with considerable credulation, which varied from time to time, and a lack of orientation as to time and place, which also varied from day to day. They did not have the physical signs of a generalized neuritis. Most of these cases occurred in women, and recovery took place in from four to sixteen months. Two such cases were under his observation at the present time. They were usually persons who were addicted to the excessive use of alcoholic stimulants, and then took chloral or the bromides or phenacetin or bromo-seltzer to clear up on. They did not develop the symptoms of multiple neuritis, but there was some tenderness on deep pressure over the nerves. Dr. Collins said he saw no reason for not considering these cases as mild, aborted forms of Korsakoff's syndrome, or the acute delirious condition described by Bonhoefer. They invariably recovered from the first attack. The speaker said he could not recall having seen a case which had not recovered.

Dr. Smith Ely Jelliffe said the question was interesting from a chemical and toxicological standpoint, as chloral was an alcohol derivative. Reduction compounds of chloral were of the nature of a trichlorethylaldehyde, the drug being formed by the action of chlorine on ethyl alcohol. The integrity of the liver must be assumed or assured in order that chloral should be reduced to the product mentioned, because its reduction is dependent on certain undetermined liver activities. Under conditions in which these activities are modified or impaired, it would be interesting to see what the relation would be between the diminished liver reduction and the poisonous effects induced by chloral in these cases.

Dr. Henry S. Noble, of Middletown, Conn., said that in the cases of Korsakoff's disease with which he had come in contact, the prognosis had not been as favorable as in those referred to by Dr. Collins. They were seen in a large institution, and were possibly far advanced, or there may have been previous attacks, but they were certainly of a chronic character and did not recover. The speaker said he could trace a resemblance between the case reported by Dr. Kirby and Korsakoff's disease; they seemed to depend on a toxic influence, and to that extent, at least, fell in the same category. It was not at all necessary, in Korsakoff's disease, that the symptoms should be attended with a neuritis, although a neuritis was often present.

Dr. R. A. Defendorf, of Middletown, Conn., said he did not think Dr. Kirby had established the fact that alcohol was not the etiologic factor in the cases he had reported, instead of chloral and phenacetin. The speaker said he had seen cases of alcoholic deliria with symptoms very similar to those in two of the cases reported, particularly those in which hallucinations were absent. He did not agree with Dr. Collins that the symptom complex in those cases closely approached that of Korsakoff's disease, principally on account of the prognosis. He had yet to see a case of Korsakoff's disease where the patient had recovered.

Dr. Kirby, in closing, said he could readily under-

stand that many of these patients with symptoms of toxic deliria did not reach the asylum. In some instances, the symptoms were due to a combination of toxic influences. In only one of his cases could the symptoms be attributed to a single drug, and that was phenacetin. Usually, Korsakoff's psychosis, whether accompanied by a polyneuritis or not, was a chronic delirium. In the cases he had reported, the disorder was acute, and a study of the delirium disclosed several points of dissimilarity. The attention of these patients was easily engaged, but very hard to hold, while in Korsakoff's delirium the patients had a fairly good power of attention. Dr. Kirby said he had never seen a case of Korsakoff's disease completely recover. In the cases he had reported, the patients fabricated along a certain train, while in Korsakoff's disease they were more apt to vary.

NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, held May 9, 1905.

The President, J. Riddle Goffe, M.D., in the Chair.

Mutiple Myomectomy in Early Pregnancy.—Dr. A. Brothers related the history of a woman, twenty-six years of age, who had been married five weeks and presented all of the symptoms of early pregnancy. She had always been well and had no knowledge of the presence of any tumor prior to her marriage. The last menstruation, due three weeks previously, did not appear, but crampy pains began and continued at intervals, finally localizing in the right side. An examination revealed the presence of a large, hard tumor in the right side of the abdomen and a small one in the pelvis, which could be differentiated from a probably early pregnant uterus. The symptoms were thought to be due to a twisted pedicle of the large tumor. A myomectomy was planned on account of the age of the patient, and at the operation the larger tumor was found to be a large myoma with beginning torsion of its pedicle which was attached to the right horn. A smaller tumor, similarly attached, was also removed, as well as four other smaller but sessile tumors, the most difficult one being located in the lower uterine segment. The uterus was large and soft, and had the usual appearance of a pregnant uterus. Patient left the hospital on the eighteenth day, complaining only of morning nausea.

Dr. H. J. Boldt presented the following specimens: (1) Ovaries and tubes removed for acute suppurative salpingitis and chronic ovaritis from a multipara, who had been complaining of severe pain and profuse menstruation, in spite of persistent local treatment and a recent curettage. (2) A uterus removed for chronic metro-endometritis from a patient, forty-two years of age, who had been suffering for three years, in spite of local treatment and several curettings. (3) A multilocular tumor of the ovary, shown by the histological examination to be a papillary cystoma. Amenorrhea had aroused the suspicions of pregnancy, for which she had consulted a physician. (4) A subperitoneal myoma, showing beginning myxomatous degeneration. (5) An ovarian and tubo-ovarian abscess that started from a criminal abortion performed four months previously. (6) A submucous myoma, resembling an adenomyoma in its situation, removed per vaginam. (7) A large myofibroma removed by abdominal hysterectomy. (8) Uterus and appendages, the seat of chronic metritis and bilateral purulent salpingitis, removed from a

patient, forty-two years of age, who had been ill with a septic infection following a confinement two years ago.

Fibrosarcoma of the Ovary with Twisted Pedicle, Associated with Adenocarcinoma of the Rectum.—

Dr. H. N. Vineberg presented specimens he had removed from a patient, thirty-two years of age. An examination, six weeks after a normal labor, had shown the pelvic organs to be normal, with the exception of a slight enlargement and prolapse of the right ovary. Twenty-one months later, after suffering considerable pain for several months, which lately had been associated with rectal tenesmus and more or less mucous diarrhea, an examination showed the presence of a large, solid tumor situated in front of the uterus, which was crowded against the rectum. The opinion of other consultants that the tumor was a fibroid and that operation might be delayed, influenced the patient to wait. An attack of severe pain four weeks later made the diagnosis of a twisted pedicle probable, and determined the patient to submit to an operation. There was considerable ascites, and the pedicle of the tumor had undergone one and one-half twists. Pathological examination showed it to be a fibrosarcoma of the ovary. The rectal symptoms persisted and a small mass was felt behind the uterus that was thought to be either the left ovary or a small exudate. Four months later, on account of the rectal symptoms and the occurrence of a rectal hemorrhage, another examination revealed the tumor as felt at the time of leaving the hospital. Examination with the sigmoidoscope showed just beyond the third valve an irregular growth, the size of half a mandarin orange, situated in the anterior wall, a piece of which was found histologically to be an adenoma destruens. The patient delayed the operation for six weeks when the mass was found to be considerably larger. The operation was performed through the posterior vaginal wall. After a transverse incision in the posterior vault the peritoneal cavity was opened and the intestines walled off with gauze. A longitudinal incision was then made through the posterior vaginal wall from the transverse opening to the perineum and sphincter ani, but not including it. The vaginal wall was then dissected back and the rectum divided about $2\frac{1}{2}$ inches from anal margin and sigmoid portion pulled down until the growth was delivered and the rectum could be divided about an inch above it. The divided ends were then sutured with silk. The patient has done well in spite of poor general condition. A small fecal fistula persists, although a fair amount comes through the anus, over which she has perfect control. Histological examination showed the growth to be an adenocarcinoma.

Large Myofibroma Associated with a Fibrosarcoma of Right Ovary.—Dr. H. N. Vineberg presented these tumors: The patient, aged forty-nine years, had known she had a tumor of the uterus for seven years, which had increased rather rapidly in size for the past few years. Her chief symptoms had been a feeling of weight, general weakness and profuse menstruation. A large nodular tumor was present in the right side of the abdomen, reaching very nearly to the liver. The uterus was pushed upward by another hard and smooth tumor that almost completely filled the true pelvis. The latter tumor proved to be a fibrosarcoma of the right ovary; the other a pedemulated uterine fibroid.

Dr. H. C. Coe, in the discussion, referred to three cases of pregnancy, complicated by fibroids, he had

recently seen, in each of which the indications for treatment were different. In one, an incomplete abortion, the uterus was completely emptied; in the second case a sudden attack of severe pain was found to be due to the dislodgment from the pelvis of a fibroid tumor. Delay was advised. In the third case multiple fibroids were present, and delay until full term was advised, doing then a Cæsarian section and, if necessary, a supravaginal hysterectomy. If, in general, the patients are only five months advanced in pregnancy, he thinks it is better to allow them to go to full term and do, if necessary, a Cæsarean section.

Dr. Ralph Waldo reported a myomectomy he had successfully performed in the third month without interruption of the pregnancy.

Dr. R. A. Murray thought it was the consensus of opinion that the emptying of the impregnated uterus in the presence of a fibroid was a serious matter, even at full term. Necrosis is apt to occur, and many die from sepsis. He thinks, in general, it is better to allow them to go to full term, unless they are slightly attached. He related a case in which he had done this procedure and performed a Cæsarean at full term.

For How Long a Time Should We Enjoin Rest in Bed after Abdominal Section?—Dr. Francis Förster, under the above title, read the paper of the evening, basing his remarks upon the statement of one of the members that he allowed his patients up just as soon after operation as they chose. While he thought any endeavor to cut loose from the habitual in operative treatment should be welcomed, yet the safety of the patient should be the first consideration. In the discussion he considered the following factors: Condition of patient, character of operation, length and locality of incision, method of suturing and suture materials. In conclusion he did not think the tendency to shorten the period of rest in bed was advisable, except for suitable cases, and that any attempt to shorten this period to a few days was a hazardous experiment.

Dr. H. J. Boldt, in the discussion, said Dr. Förster's paper is purely theoretical, inasmuch as he had not tried the procedure of allowing the patients up early. Dr. Ries, of Chicago, had first adopted the plan, and he had followed his example, allowing the patients to get up as soon as they wished, whether it was a few hours or a few days after operation. Dr. Boldt stated, his patients did better and he had no accidents. In a number of cases his patients had left the hospital in seven to eight days after operation. In reply to questions, Dr. Boldt said he used plain catgut for peritoneum, interrupted chromic for muscles and plain for the rest of the work. He used the mattress suture and adhesive plaster running around the entire body. He was not influenced at all by the length of the incision.

Dr. H. N. Vineberg said, patients had complained so much of the adhesive plaster that he had been influenced to remove it too early in some instances, so that now he always left it on for ten or twelve days. It seemed to him the condition in the pelvis should determine the length of time patients should rest. He thought it would be extremely hazardous to allow patients up to six or seven days after a severe operation, and in case of fibroids with large veins embolism would be apt to result.

Dr. H. C. Coe thought Dr. Förster's conclusions were so self-evident that he was surprised that they

were questioned. He thought the medicolegal aspect of the question should be considered, as he was afraid a death from embolism in a patient who had been allowed to get up so early could hardly be defended. Thrombophlebitis was not so very uncommon, even after a simple section kept in bed the usual length of time. He therefore could not agree with Dr. Boldt.

Dr. Ralph Waldo said that he had had a hematoma of the abdominal wall occur in a patient he had allowed up earlier than usual, and since then he had kept his patients in bed at least two weeks.

Dr. Leroy Broun stated he would hesitate to adopt this method without knowing something more of the results, as he thought the nervous disturbance after an operation was to be considered as well as the histological condition of the wound.

Dr. W. E. Studdiford asked what proportion of cases wish to get up the third day. He did not think that after the severe operation patients could get up without injury.

Dr. J. Milton Mabbott stated that from a theoretical standpoint a patient's health fails to improve after a certain number of days in bed without exercise or massage, although in obstetric practice the incomplete involution of the uterus prevented them from getting up so early. He thought it was fair for a certain number of experienced men to give this method a trial.

BOOK REVIEWS.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS.

By LEWIS A. STIMSON, B.A., M.D., LL.D. (Yale), Professor of Surgery in Cornell University Medical College, New York; Surgeon to the New York and Hudson Street Hospitals; Consulting Surgeon to Bellevue, St. John's, and Christ Hospitals; Corresponding Member of the Société de Chirurgie of Paris. Lea Brothers & Company, New York and Philadelphia.

SINCE the days of the "natural bonesetters," the scientific investigation of fractures and dislocations has progressed steadily until it has almost reached the stage of a specialty. In no other field is the resourcefulness and individuality of the medical attendant brought more strongly into play, and likewise in no other field is his effort more apt to live a burden to his patient and a mockery to himself. A thorough and comprehensive knowledge of this branch constitutes an exacting study. General surgeries almost invariably allow only sufficient space for leading principles, whereas the work in hand commends itself on account of its full and adequate treatment of the subject.

This volume is not an unfamiliar one to the medical profession, since for several years it has enjoyed a wide popularity. The new Fourth edition retains the same general characteristics of the edition of 1899, therefore no detailed description of its present form is deemed necessary.

Five years have elapsed since the issue of the previous edition and during that time a distinct advance, practical and scientific, has been achieved. The application of the X-ray to this line of work has revealed many hitherto obscure conditions, such as fractures complicating joints, which are now more accurately diagnosed; also, a greater confidence is manifested toward the literature of reported cases with a consequent larger availability of authentic data.

As formerly, the records of the House of Relief

(Hudson Street Hospital), New York, furnishes chiefly the material upon which this volume is founded. There, during the period from 1894 to 1903, 12,090 fractures and 1,239 dislocations came under observation. From this fact the author feels that the personal form given the work is justifiable.

The most noteworthy changes are the result of the more definite understanding gained through the agency of the Roentgen ray. It is now known that in Colles' fracture comminution or splitting of the lower fragment is frequent even in early adult life, that the displacement backward of the fragment is not commonly so marked as has been supposed from the appearance of the limb, and that the styloid process of the ulna is infrequently broken. Likewise, from the recent observations, it has been possible to simplify and more accurately classify fractures occurring at the lower end of the humerus in the young.

There is an evident trend toward the more frequent resort to open operations, both where fragments are difficult of reduction and fixation, and for the relief of dislocations irreducible, habitual and "ancient." In regard to the last of these conditions, Dr. Stimson exhibits a spirit of conservatism. He says: "At the present time wound infection is of more frequent occurrence after operative reduction of old dislocations or the large joints than other primarily clean operations, and an almost inevitable result of such infection is ankylosis of the joint; and even in cases which escape infection the restoration of function is usually incomplete. . . . The improvement to be got by a chance of position may be far too slight to justify the risks of an operation so extensive as would be required for reduction, and an almost equal improvement might be had by an osteotomy."

The excellent skiagraphic work with which the volume has been enriched should not be overlooked. Particularly valuable are the ones depicting injuries in and about the wrist-joint.

Far too few books of this character exist to-day. Dr. Stimson has chosen one specific field, collected authentic material and thoroughly analyzed it. The wide popularity accorded his former editions signifies the high regard in which his efforts are held by the medical world.

BOOKS RECEIVED.

MANUAL OF MIDWIFERY. By Dr. Henry Jellett. 8vo, 1,159 pages. Illustrated. Wm. Wood & Co., New York.

A NURSE'S GUIDE. By Dr. Nicholas Senn. Second edition. 8vo, 204 pages. Illustrated. W. T. Keener & Co., Chicago.

REFERENCE HANDBOOK FOR NURSES. By Amanda K. Beck. 12mo, 177 pages. W. B. Saunders & Co., Philadelphia and London.

AN ATLAS OF DERMATOLOGY. By Dr. Morgan Dockrell. 4to, illustrated. Longmans, Green & Co., New York, London and Bombay.

ORTHOPEDIC SURGERY. By Drs. E. H. Bradford and R. W. Lovett. Third edition. 8vo, 669 pages. Illustrated. Wm. Wood & Co., New York.

TEXT-BOOK OF MEDICAL CHEMISTRY AND TOXICOLOGY. By Dr. J. W. Holland. 8vo, 568 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

DISEASES OF THE BLOOD. By Drs. P. Ehrlich, K. von Noorden, A. Lazarus and F. Pinkus. Translated and edited by Dr. Alfred Stengel. 8vo, 714 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.